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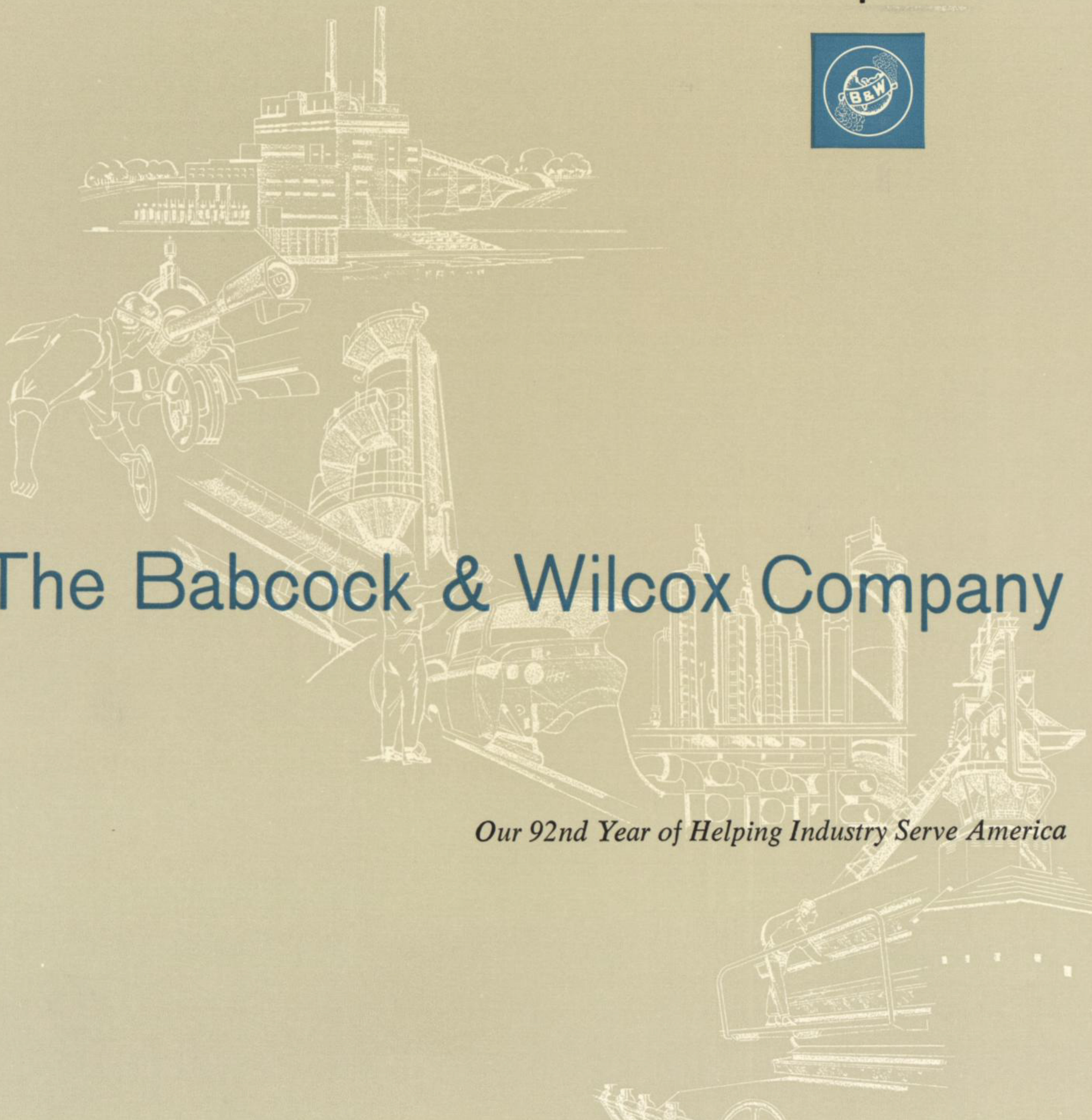

The Babcock & Wilcox Company

Our 92nd Year of Helping Industry Serve America

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The Babcock & Wilcox Company

Incorporated in 1881 from a partnership formed in 1867

Directors

A. G. PRATT, *Chairman*
L. M. CURRIE
WALTHER H. FELDMANN
J. ROY GORDON
C. W. MIDDLETON
M. NIELSEN
STODDARD M. STEVENS
W. J. THOMAS
B. A. TOMPKINS
JOHN C. TRAPHAGEN
L. S. WILCOXSON

Officers

M. NIELSEN, *President*
J. S. ANDERSON, *Vice President*
R. A. BARR, *Vice President*
CARL CLAUS, *Vice President*
J. P. CRAVEN, *Vice President*
L. M. CURRIE, *Vice President*
S. T. MACKENZIE, *Vice President*
ALAN E. PHIN, *Vice President*
W. H. ROWAND, *Vice President*
W. D. SULLIVAN, *Vice President*
W. J. THOMAS, *Vice President*
L. S. WILCOXSON, *Vice President*
R. J. CANTWELL, *Comptroller*
W. G. DRYDEN, *Treasurer*
MARTIN VICTOR, *Secretary*
O. R. CARPENTER, *Assistant Vice President*
N. K. FELDMAN, *Assistant Comptroller*
E. F. HORGAN, *Assistant Secretary*

General Offices 161 East 42nd Street, New York 17, New York

Stock Transfer Agent Bankers Trust Company,
16 Wall Street, New York 15, New York

Registrar The Bank of New York
48 Wall Street, New York 15, New York

General Counsel Sullivan & Cromwell

Auditors Price Waterhouse & Co.

1959 Highlights

	1959	1958
Per Share Issued[1]		
Net income for the year	$ 2.58	$ 2.11
Cash dividends declared	1.05	.99
Stock dividends declared	—	1%
Stockholders' equity	$27.74	$26.21
In Thousands of Dollars		
Orders received	$395,540	$236,201
Unfilled orders	300,948	237,479
Sales (on percentage of completion method for long-term contracts)	332,071	365,941
Income before income taxes and minority interest	33,654	28,951
Net income for the year	15,938	13,035
Cash dividends declared	6,435	6,107
Stock dividends declared	—	1,993
Expenditures for property, plant and equipment	13,183	18,162
Depreciation and amortization	7,650	7,013
Payrolls and employee benefits	126,690	143,307
Average number of employees during year	20,000	23,100
Number of stockholders at year end	19,196	17,815
Number of shares issued at year end	6,183,313	6,122,093

[1] Based on the shares issued at the end of 1959, including shares held in the Treasury for Stock Option Plan.

The Babcock & Wilcox Company

Seventy-Ninth

annual report

for the year ended December 31

1959

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To the Stockholders of The Babcock & Wilcox Company:

The Company's net income of $15,938,000 for 1959 was 22 per cent higher than that for the previous year, despite lower shipments and the effects of the steel strike which closed one of our major plants for over three months. These earnings are considerably better than anticipated at the time of our annual meeting in April 1959 and are the second highest in the Company's history.

The settlement of the steel strike has removed a major obstacle to sustained operations in 1960, and orders and backlogs for B&W products are currently increasing. At the same time we look forward to continued improvement in efficiency resulting from the many additions to facilities and other changes over the past few years – such as the new steel mill for the Tubular Products Division and the consolidation of Boiler Division headquarters in the new office building at Barberton, Ohio. Thus, from the standpoint of earnings, 1960 should be a good year for the Company if present trends continue.

The long-term effects of the steel settlement are inflationary. We are exerting every effort to minimize their impact on our prices and earnings, but it must be realized that continued additions to costs, without parallel increases in productivity, will inevitably make it necessary to increase prices in order to protect the Company's financial position.

Several atomic power plants of different designs are being constructed by utilities in various parts of the country. While it is unlikely that there will be further large-scale orders for atomic plants until those now under construction have had a period of operation and study, we have no doubt concerning the ultimate need for nuclear steam-electric power generation. We are, therefore, continuing to invest substantial amounts in atomic energy research and engineering development to prepare for that future.

The nation lost a distinguished servant in the sudden death of Vice-Admiral E. L. Cochrane on November 14, 1959. Our Company also lost a valued member of its Board of Directors. From the time he joined the Board on April 1, 1953, his keen mind and active interest in the affairs of the Company were of great help to all of us. We have been fortunate in securing the services of Walther H. Feldmann, President of Worthington Corporation, to fill the vacancy created by Admiral Cochrane's untimely passing.

A Diversified Company was the theme of our Annual Report for 1958, which described the operations of each of our divisions and subsidiaries. The theme of this year's Annual Report is *Helping Industry Serve America.* We show how B&W enters the life of every American through the services and products it supplies to America's industries in their constant search for better and more economical performance. We believe that such service is a key to sustained growth and development of the Company.

On behalf of the Board and the management of the Company, I wish to express appreciation for the continued support of our stockholders, customers and suppliers, and the loyal efforts of the Company's more than 20,000 employees who have contributed so much to the performance recorded in this report.

New York, N. Y.
February 25, 1960

M. Nielsen.
President

Financial Review

The figures given in this report are those resulting from a consolidation of the Company and its subsidiaries, Bailey Meter Company, Diamond Power Specialty Corporation, and A. M. Lockett & Co., Ltd.

Earnings

	1959	1958
Net Income	$15,938,000	$13,035,000
Shares Issued (end of 1959)	6,183,313	6,183,313
Earned per Share	$2.58	$2.11

Sales (shipments) for 1959 of $332,071,000 were 9.3% less than those for the preceding year and results were adversely affected by the strike of the United Steelworkers which closed one of our major plants for more than three months. Nevertheless, income from operations increased by 12.3% to $33,363,000 which was brought about by general improvements in operations and a more favorable composition of shipments.

Dividends

Quarterly dividends of 25 cents per share were declared in February, May, and August, and of 30 cents per share in November, which brought the total dividends declared during 1959 to $1.05 per share.

Orders and Backlog

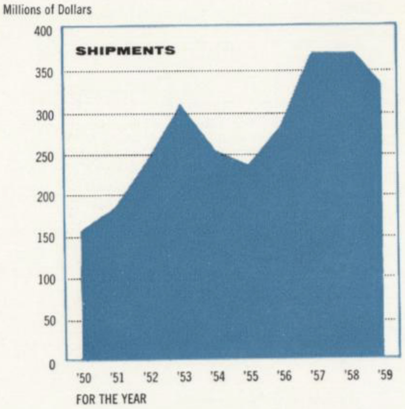
Orders received during 1959 amounted to $395,540,000 and were up from the $236,201,000 entered in 1958. Because these new orders were greater than sales (shipments), the backlog increased from $237,479,000 at the end of 1958 to $300,948,000 on December 31, 1959. A substantial part of the unfilled orders is for large steam generating equipment which is not scheduled for shipment until 1961 or later.

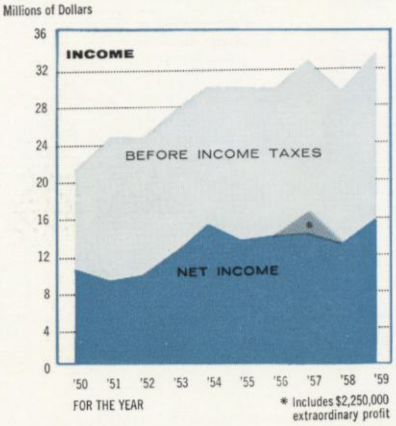
Financial Position

The Company is in a strong financial position. Working capital increased during 1959 and it is not expected that funds from outside sources will be needed during 1960 and 1961 to finance the volume of business expected during those years and capital requirements as they are now projected.

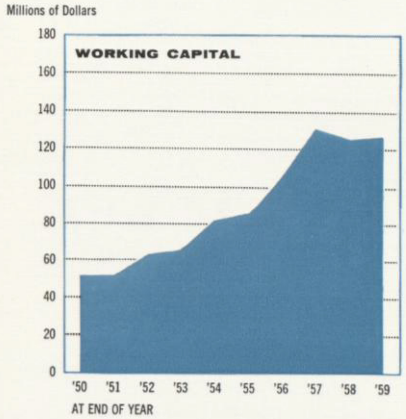
Cash and marketable securities were increased from $23,451,000 at the end of 1958 to a total of $39,518,000 at the end of 1959. This

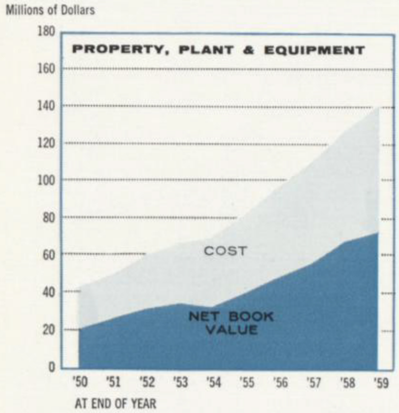
Trend Charts

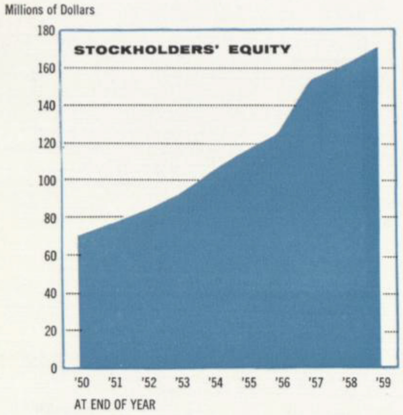




* Includes $2,250,000 extraordinary profit







occurred primarily because inventories declined as a result of the lower volume of shipments compared with the previous two years.

Property, Plant and Equipment

Capital expenditures for property, plant and equipment during 1959 amounted to $13,183,000, which was about $4,979,000 less than in 1958. Additions and improvements were made in all divisions of the Company, the largest projects placed in service being an electric furnace steel mill for the Tubular Products Division and equipment for the expansion of the Boiler Division capacity to produce hollow forgings, nuclear reactors, and nuclear fuel elements.

At the end of the year $3,733,000 authorized by the Board had not been expended. The amount of these authorizations and several capital projects under consideration are expected to result in substantial expenditures over the next several years.

Employees

The average number of active employees during 1959 was approximately 20,000. At the end of the year, 758 retired employees were receiving pensions. The total cost of payrolls and employee benefits in 1959, including Company contributions to the pension funds, amounted to $126,690,000.

Under the formalized pension plans approved by the stockholders in 1955, actuarially determined payments are made into trust funds established by the plans. Since contributions to the pension funds in 1959 plus the income from investments greatly exceeded pension payments, the assets of the pension funds increased considerably as is shown below.

Total assets on January 1, 1959	$12,092,000
Contributions by Company during 1959	4,010,000
Income from pension fund investments during 1959	491,000
Total	$16,593,000
Less pensions paid during 1959	940,000
Total assets on December 31, 1959	$15,653,000

The following is the status of the Company's Stock Option Plan, approved by the stockholders in 1958, which authorizes the granting of options to key employees to purchase Capital Stock of the Company at prices of not less than 95% of the current market value at the time of granting:

Options were outstanding at January 1, 1959, including increase for 1% stock dividend paid in January 1959, for	40,905 shares
Options were granted during 1959 for	39,300 shares
Options lapsed during 1959 for	(3,024) shares
Options were outstanding December 31, 1959 for a total of	77,181 shares

At December 31, 1959 there remained 74,319 shares available for granting of options.

Under the Stock Option Plan, only previously issued shares of the Company's Capital Stock may be used to meet the options. Accordingly, the Company has acquired sufficient shares on the open market to meet the outstanding options, at an aggregate cost of $2,591,256, which sum is included in "Prepaid Expenses and Other Assets" in the "Statement of Financial Condition."

Number of Stockholders

Stockholders of record increased from 17,815 on December 31, 1958 to 19,196 on December 31, 1959.

1959 Income and Where It Went

Our Income Was	$332,071,000		From products shipped to customers
	1,509,000		From investment income
	$333,580,000		Total
We Paid Out and Provided	$161,384,000	48.4%	For materials and services purchased
	126,690,000	38.0	For wages, salaries and employee benefits
	20,414,000	6.1	For taxes
	7,650,000	2.3	For depreciation of plant and equipment
	1,218,000	.4	For interest on money borrowed
	286,000	.1	For minority interest in subsidiary company
	6,435,000	1.9	For cash dividends to stockholders
	9,503,000	2.8	For future growth (Retained earnings)
	$333,580,000	100.0%	Total

Financial Statements

Consolidated Statement of Income and Retained Earnings for the Calendar Year 1959

(with comparative figures for the year 1958)

	1959	1958
Sales (on percentage of completion method for long-term contracts)	$332,070,563	$365,940,852
Costs and expenses:		
Materials, payrolls, services and taxes other than U. S. and Canadian taxes on income	291,057,987	329,220,109
Depreciation of plants and equipment (includes amortization $1,418,207 in 1959 and $1,894,196 in 1958)	7,649,736	7,013,407
	298,707,723	336,233,516
Income from operations	33,362,840	29,707,336
Income from investments	1,508,659	461,934
Interest expense	(1,217,500)	(1,217,705)
	33,653,999	28,951,565
U. S. and Canadian taxes on income	17,430,000	15,640,000
	16,223,999	13,311,565
Income applicable to minority interest	(286,199)	(276,255)
Net income for the year	15,937,800	13,035,310
Dividends declared:		
Cash	6,435,073	6,107,043
Stock (1% or 61,220 shares in 1958 at $32.55 per share – recorded at approximate market value)	—	1,993,000
	6,435,073	8,100,043
Remainder added to retained earnings	9,502,727	4,935,267
Retained earnings at beginning of year	79,717,409	74,782,142
Retained earnings at end of year (see note)	$ 89,220,136	$ 79,717,409

NOTE: Under Note Agreements, retained earnings in the sum of $44,549,000 at December 31, 1959 were unrestricted for the payment of dividends.

Consolidated Statement of Financial Condition at December 31, 1959

(with comparative figures at December 31, 1958)

	1959	**1958**
CURRENT ASSETS		
Cash	$ 9,530,818	$ 11,764,419
Marketable securities, at cost (approximate market)	29,986,831	11,686,252
Accounts receivable	59,726,330	52,513,786
Unbilled shipments and installations, at contract prices	21,688,371	29,532,741
Inventories, at lower of cost or market	63,357,491	76,938,853
Advance payments on contracts	(10,608,446)	(11,226,012)
TOTAL CURRENT ASSETS	173,681,395	171,210,039
CURRENT LIABILITIES		
Accounts payable	12,677,683	12,991,421
Accrued liabilities	16,950,423	15,435,668
Cash dividends payable	1,832,192	1,520,398
Provision for additional costs on contracts	2,610,603	3,912,989
U. S. and Canadian income taxes	12,157,596	12,312,015
TOTAL CURRENT LIABILITIES	46,228,497	46,172,491
WORKING CAPITAL	127,452,898	125,037,548
INVESTMENTS, at cost	603,521	603,521
PROPERTY, PLANT AND EQUIPMENT (see page 9)	73,390,394	67,867,405
PREPAID EXPENSES AND OTHER ASSETS (includes cost of shares of the Company's stock acquired for stock options – 77,181 shares in 1959; 40,905 shares in 1958 – see page 6)	3,471,882	1,890,211
PATENTS	1	1
WORKING CAPITAL AND OTHER ASSETS	204,918,696	195,398,686
DEDUCT		
Eighteen-year notes due June 1, 1974; $23,000,000 at 3⅞%, $9,000,000 at 3⅝% (requiring certain annual prepayments commencing in 1961)	32,000,000	32,000,000
Minority interest in subsidiary company	1,367,133	1,349,850
NET ASSETS	$171,551,563	$162,048,836
REPRESENTED BY		
Capital stock, par value $9 per share; authorized 9,000,000 shares; issued 6,183,313 shares (including $26,681,610 excess over par value – capital surplus)	$ 82,331,427	$ 82,331,427
Retained earnings (see note page 7)	89,220,136	79,717,409
	$171,551,563	$162,048,836

Consolidated Statement of Property, Plant and Equipment At December 31, 1959

(with comparative figures at December 31, 1958)

	1959	1958
COST		
At beginning of year	$127,800,749	$110,291,623
Expenditures during year	13,183,049	18,161,651
Retired or sold during year	(396,533)	(652,525)
At end of year	140,587,265	127,800,749
DEPRECIATION AND AMORTIZATION		
At beginning of year	59,933,344	53,550,240
Charged to operations during year	7,649,736	7,013,407
Accumulated on property retired or sold during year	(386,209)	(630,303)
At end of year	67,196,871	59,933,344
Net book value	$ 73,390,394	$ 67,867,405

Opinion of Independent Public Accountants

TO THE BOARD OF DIRECTORS OF
THE BABCOCK & WILCOX COMPANY:

In our opinion, the accompanying statements present fairly the consolidated financial position of The Babcock & Wilcox Company and its subsidiaries at December 31, 1959 and the results of their operations for the year, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year. Our examination of these statements was made in accordance with generally accepted auditing standards and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

PRICE WATERHOUSE & CO.

New York, N. Y.
February 24, 1960

Ten Year Comparison of Financial Condition at December 31st

(in thousands of dollars)

	1959
CURRENT ASSETS	
Cash	$ 9,531
Marketable securities	29,987
Accounts receivable	59,726
Unbilled shipments and installations	21,688
Inventories	63,357
Advance payments on contracts	(10,608)
TOTAL CURRENT ASSETS	173,681
CURRENT LIABILITIES	
Notes payable to banks	
Accounts payable	12,678
Accrued liabilities	16,950
Cash dividends payable	1,832
Provision for additional costs on contracts	2,611
U. S. and Canadian income taxes	12,157
TOTAL CURRENT LIABILITIES	46,228
WORKING CAPITAL	127,453
INVESTMENTS	604
PENSION RESERVE INVESTMENTS	
PROPERTY, PLANT AND EQUIPMENT	73,390
PREPAID EXPENSES AND OTHER ASSETS	3,472
WORKING CAPITAL AND OTHER ASSETS	204,919
DEDUCT:	
Long term debt	32,000
Reserve for pensions	
Minority interest in subsidiary companies	1,367
NET ASSETS	$171,552
REPRESENTED BY	
Capital including capital surplus	$ 82,332
Stock dividends paid January following year	
Retained earnings	89,220
	$171,552

Ten Year Comparison of Property, Plant and Equipment

(in thousands of dollars)

COST	
At beginning of year	$127,800
Expenditures during year	13,183
Retired or sold during year	(396)
At end of year	140,587
DEPRECIATION AND AMORTIZATION	
At beginning of year	59,933
Charged to operations during year	7,650
Accumulated on property retired or sold during year	(386)
At end of year	67,197
NET BOOK VALUE	$ 73,390

Note: 1952 and prior figures have been restated to include subsidiaries not consolidated

1958	1957	1956	1955	1954	1953	1952	1951	1950
$ 11,764	$ 12,873	$ 14,578	$ 14,184	$ 20,121	$ 9,062	$ 6,785	$ 8,324	$ 9,479
11,686	4,729	1,999	8,805	7,268	1,550	1,950	1,595	8,900
52,514	45,686	39,394	34,198	39,277	43,886	42,560	32,666	24,913
29,533	20,200	10,161	10,925	17,758	20,638	17,597	8,528	12,934
76,939	104,504	91,486	56,996	40,975	56,902	56,768	49,904	25,694
(11,226)	(12,168)	(9,427)	(2,232)	(2,649)	(2,069)	(13,887)	(9,381)	(3,441)
171,210	175,824	148,191	122,876	122,750	129,969	111,773	91,636	78,479
					20,500	10,000	3,000	
12,991	10,838	12,270	9,394	11,413	12,833	11,240	9,197	6,182
15,436	14,922	12,186	9,045	9,002	10,922	9,085	7,675	5,949
1,520	1,472	1,286	1,225	778	741	706	706	706
3,913	3,315	1,762	2,803	4,000	2,500	2,500	2,500	2,500
12,312	14,975	13,867	15,109	16,588	15,560	14,770	16,292	11,008
46,172	45,522	41,371	37,576	41,781	63,056	48,301	39,370	26,345
125,038	130,302	106,820	85,300	80,969	66,913	63,472	52,266	52,134
604	604	1,600	1,600	1,603	2,177	2,194	2,202	2,201
				2,250	2,250	2,250	2,200	2,200
67,867	56,741	49,830	40,657	34,289	35,816	32,748	26,364	20,140
1,890	734	1,058	748	566	397	505	601	378
195,399	188,381	159,308	128,305	119,677	107,553	101,169	83,633	77,053
32,000	32,000	32,000	10,000	10,000	10,000	10,000		
				2,250	2,250	2,250	2,200	2,200
1,350	1,261	1,158	1,091	1,049	1,025	3,739	3,240	2,879
$162,049	$155,120	$126,150	$117,214	$106,378	$ 94,278	$ 85,180	$ 78,193	$ 71,974
$ 80,339	$ 73,338	$ 46,311	$ 38,760	$ 34,260	$ 31,450	$ 29,097	$ 29,097	$ 29,097
1,993	7,000	8,760	7,470	4,500	2,810	2,353		
79,717	74,782	71,079	70,984	67,618	60,018	53,730	49,096	42,877
$162,049	$155,120	$126,150	$117,214	$106,378	$ 94,278	$ 85,180	$ 78,193	$ 71,974
$110,291	$ 97,311	$ 82,215	$ 70,117	$ 67,177	$ 60,183	$ 50,893	$ 42,889	$ 39,574
18,162	13,708	15,921	12,640	3,792	7,493	9,684	8,455	4,030
(653)	(728)	(825)	(542)	(852)	(499)	(394)	(451)	(715)
127,800	110,291	97,311	82,215	70,117	67,177	60,183	50,893	42,889
53,550	47,481	41,558	35,828	31,361	27,435	24,529	22,749	21,684
7,013	6,779	6,699	6,249	5,234	4,410	3,289	2,078	1,747
(630)	(710)	(776)	(519)	(767)	(484)	(383)	(298)	(682)
59,933	53,550	47,481	41,558	35,828	31,361	27,435	24,529	22,749
$ 67,867	$ 56,741	$ 49,830	$ 40,657	$ 34,289	$ 35,816	$ 32,748	$ 26,364	$ 20,140

in the published reports for those years.

Ten Year Comparison of Income and Retained Earnings

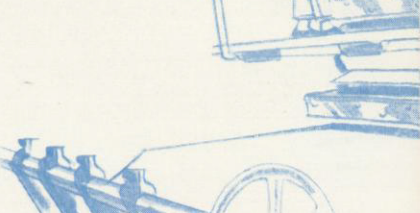
(in thousands of dollars)

	1959
Sales (on percentage of completion method for long-term contracts)	$ 332,071
COSTS AND EXPENSES	
Materials, payrolls, services and taxes other than federal taxes on income	291,058
Depreciation and amortization	7,650
	298,708
Income from operations	33,363
Income from investments	1,509
Interest expense	(1,218)
	33,654
U. S. and Canadian taxes on income	17,430
	16,224
Income applicable to minority interest	(286)
Provision for pension reserve	
Extraordinary gain less related taxes	
Net income for the year	15,938
DIVIDENDS DECLARED	
Cash	6,435
Stock – 1% in 1958, 4% in 1957 and 1956, 5% in other years	
	6,435
Remainder added to retained earnings	9,503
Retained earnings at beginning of year	79,717
Transfer to capital stock	
Transfer from pension reserve	
Retained earnings at end of year	$ 89,220

Statistics

Per share issued (adjusted for stock dividends and stock splits – 6,183,313 shares in 1959, 1958 and 1957 and 5,621,194 in previous years)	
Income for year	$ 2.58
Cash dividends declared	1.05
Stockholders' equity	27.74
Income from operations before taxes – % of sales	10.0%
Net income for year – % Net worth first of year	9.8%
Orders received – thousands of dollars	$ 395,540
Unfilled orders – thousands of dollars	$ 300,948
Shares issued during year: Stock dividend	61,220
Stock split	
Stock sold	
Shares issued end of year	6,183,313

1958	1957	1956	1955	1954	1953	1952	1951	1950
$ 365,941	$ 366,081	$ 281,485	$ 233,291	$ 250,471	$ 305,746	$ 241,267	$ 182,025	$ 154,854
329,221	326,375	244,890	197,006	214,539	273,701	213,510	155,282	132,010
7,013	6,779	6,699	6,249	5,234	4,410	3,289	2,078	1,747
336,234	333,154	251,589	203,255	219,773	278,111	216,799	157,360	133,757
29,707	32,927	29,896	30,036	30,698	27,635	24,468	24,665	21,097
462	386	562	515	737	206	436	530	402
(1,218)	(1,238)	(854)	(354)	(580)	(891)	(397)	(5)	
28,951	32,075	29,604	30,197	30,855	26,950	24,507	25,190	21,499
15,640	17,630	15,320	16,520	15,470	14,190	13,750	15,598	9,992
13,311	14,445	14,284	13,677	15,385	12,760	10,757	9,592	11,507
(276)	(239)	(203)	(190)	(173)	(699)	(898)	(551)	(689)
						(50)		(500)
	2,250							
13,035	16,456	14,081	13,487	15,212	12,061	9,809	9,041	10,318
6,107	5,753	5,146	4,901	3,112	2,963	2,822	2,822	4,233
1,993	7,000	8,760	7,470	4,500	2,810	2,353		
8,100	12,753	13,906	12,371	7,612	5,773	5,175	2,822	4,233
4,935	3,703	175	1,116	7,600	6,288	4,634	6,219	6,085
74,782	71,079	70,984	67,618	60,018	53,730	49,096	42,877	36,792
		(80)						
			2,250					
$ 79,717	$ 74,782	$ 71,079	$ 70,984	$ 67,618	$ 60,018	$ 53,730	$ 49,096	$ 42,877
$ 2.11	$ 2.66	$ 2.50	$ 2.40	$ 2.71	$ 2.15	$ 1.75	$ 1.61	$ 1.84
.99	.93	.92	.87	.55	.53	.50	.50	.75
26.21	25.09	22.44	20.85	18.92	16.77	15.15	13.91	12.80
8.1%	9.0%	10.6%	12.9%	12.2%	9.0%	10.1%	13.6%	13.6%
8.4%	13.0%	12.0%	12.7%	16.1%	14.2%	12.5%	12.6%	15.7%
$ 236,201	$ 306,072	$ 495,257	$ 317,283	$ 192,199	$ 157,255	$ 227,563	$ 319,534	$ 257,957
$ 237,479	$ 367,219	$ 427,228	$ 213,456	$ 129,464	$ 187,736	$ 336,227	$ 349,931	$ 212,422
235,465	205,826	81,677	77,787	74,083	70,555			
		3,430,436						705,558
	535,148							
6,122,093	5,886,628	5,145,654	1,633,541	1,555,754	1,481,671	1,411,116	1,411,116	1,411,116



Helping Industry Serve America

Through the essential services it renders to various industries, B&W enters the life of each American – in the power he consumes, the car he drives, the appliances he uses, the clothes he wears, the house in which he dwells, and the food he eats. Thus, although B&W is primarily a manufacturer for other manufacturers, its growth is tied into the daily needs of every citizen.

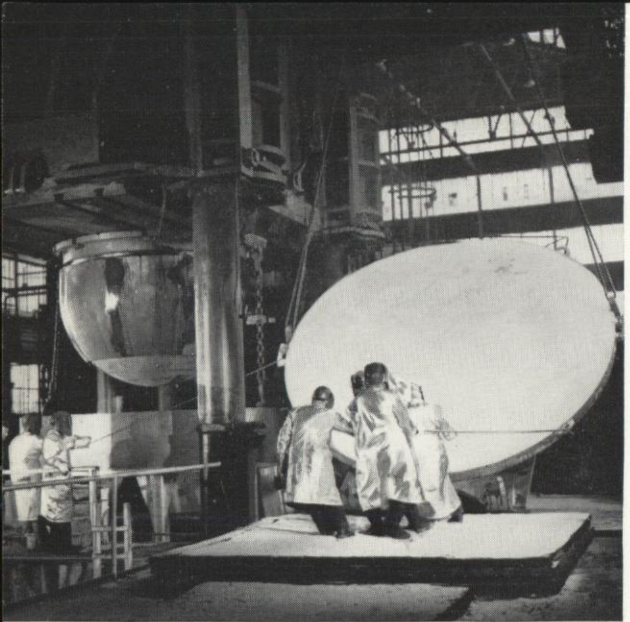
B&W had its start back in 1867 with the invention of a water-tube boiler that solved a basic problem facing American industry: the need for a safe and economical boiler to supply steam for industry's many and diverse requirements. Ever since that time, B&W has believed that its success depends on studying the operations and problems of the industries it serves and trying to anticipate their needs with superior and economical products.

The Company's engineers and scientists are well versed in the processes and requirements of many industries. Whether the question comes from a utility seeking to purchase the largest boiler in the world or from a refinery needing tubes of an unusual alloy steel, from a chemical plant desiring a special refractory for its furnaces or a steel mill with temperature control problems in soaking pits, from a shipping company looking forward to atomic powered vessels or a pulp mill with difficult boiler cleaning problems – the answer will be found in B&W's store of experience and accumulated knowledge.

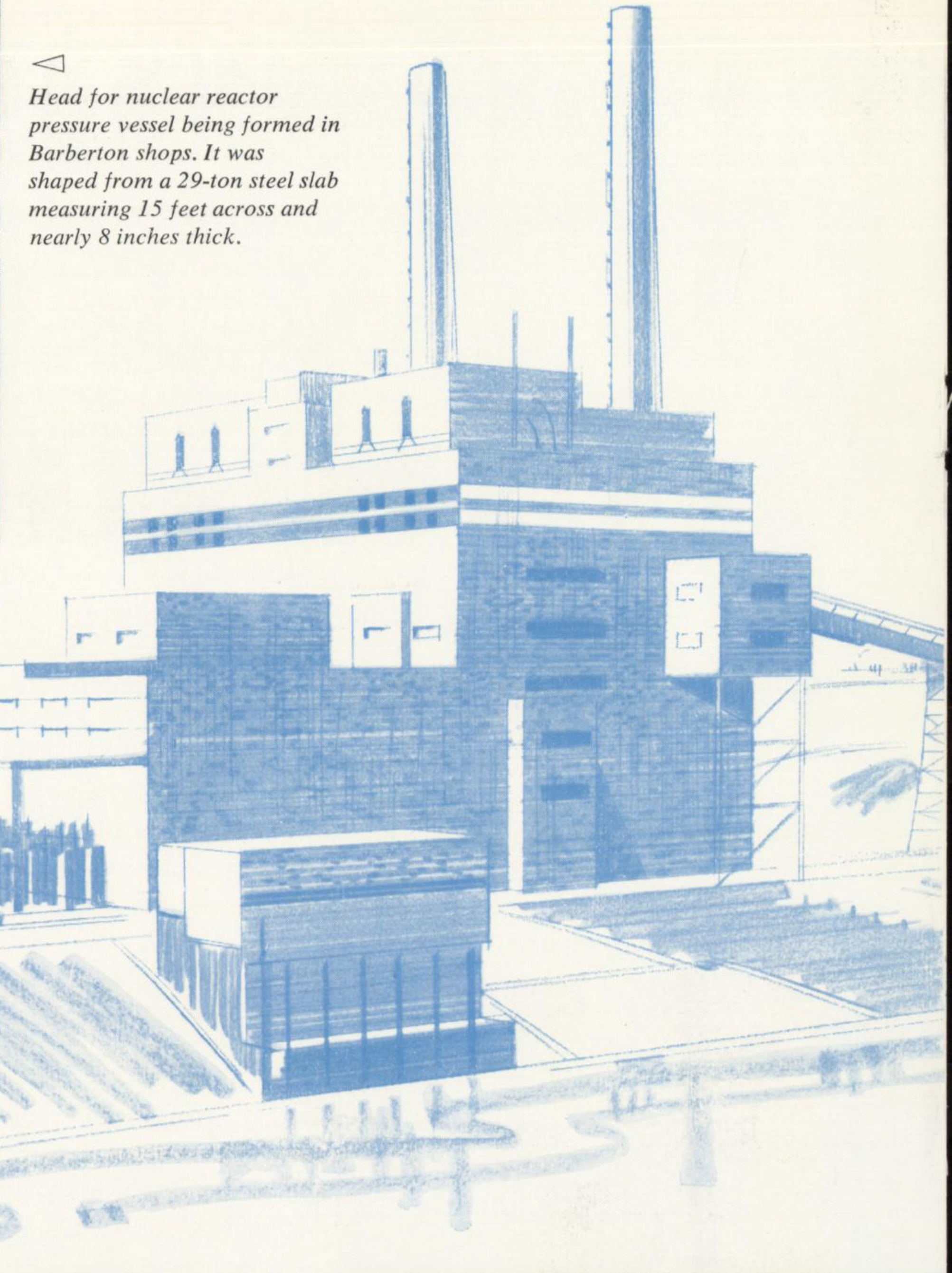
This ability to help industry solve its problems has led to a growing diversity of the Company. Today, B&W consists of four operating divisions–Boiler, Atomic Energy, Tubular Products, and Refractories; three subsidiaries – Bailey Meter Company, Diamond Power Specialty Corporation and A. M. Lockett & Co., Ltd.; and three service divisions – Staff, Finance and Accounting, and Research and Development.

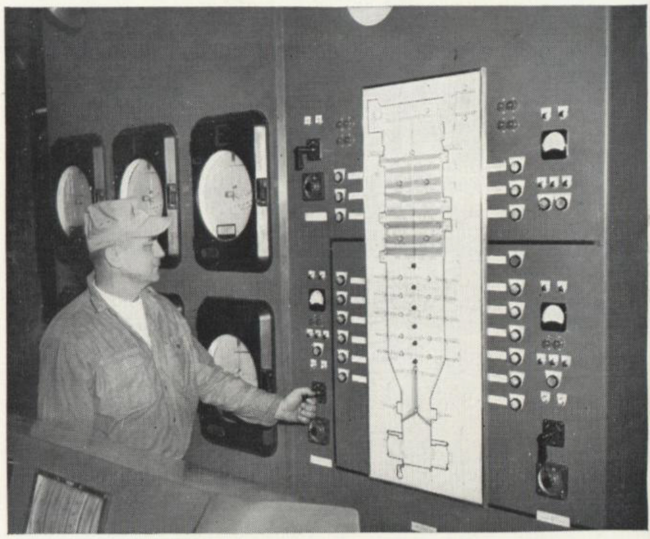
Besides being a vital supplier, B&W is an important customer of industry. Large quantities of steel and other raw materials, manufactured components and power are consumed by B&W's plants throughout the country in the production of steam generating equipment, atomic reactors, heat exchangers, tubing, refractories, meters and controls, soot blowers and the many other products our customers need.

On the following pages we describe briefly a few of the many industries B&W serves and the way in which we serve them.



◁ *Head for nuclear reactor pressure vessel being formed in Barberton shops. It was shaped from a 29-ton steel slab measuring 15 feet across and nearly 8 inches thick.*

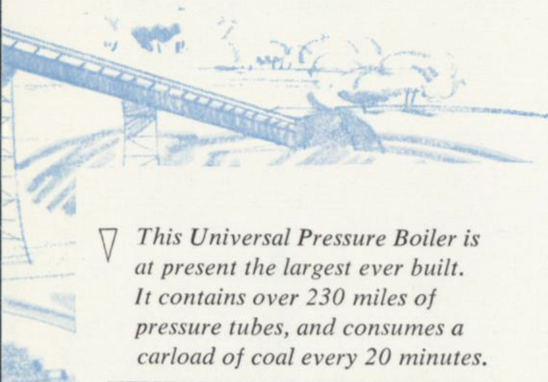




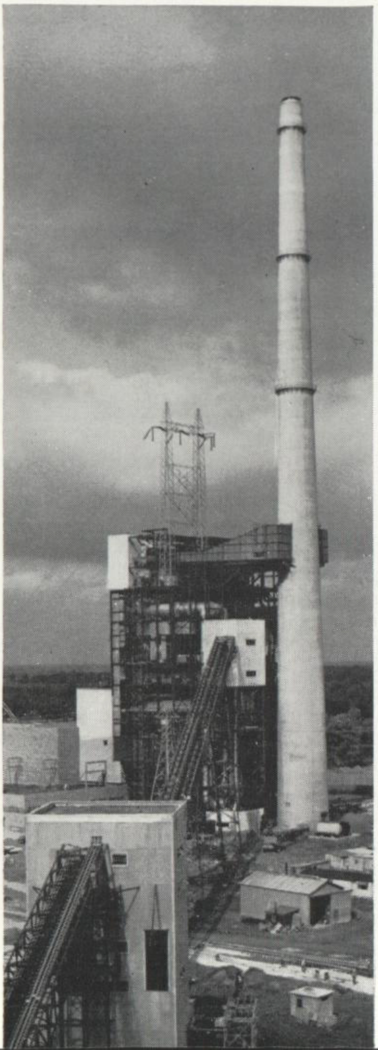
△ *Today's huge steam generators are almost entirely automatic in operation, being controlled from Bailey consoles such as this.*

△ *Efficient operation of today's large boilers depends on clean heating surfaces provided by soot blowers. This Diamond Selectromatic Panel controls the entire cleaning operation.*

The Electrical Utility Industry



▽ *This Universal Pressure Boiler is at present the largest ever built. It contains over 230 miles of pressure tubes, and consumes a carload of coal every 20 minutes.*

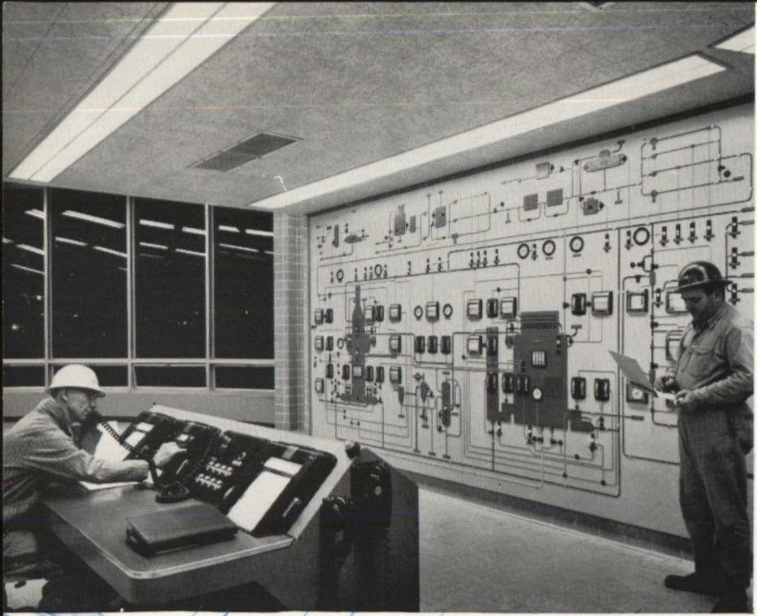


Americans use about eight times as much electricity per person as the average for the rest of the world – and demand continues to grow at a phenomenal rate. It is predicted that electrical generating capacity will double in the next decade.

B&W, working with the utility industry since its very formation, has played an important part in the technological advancements that have helped to make electricity America's greatest bargain. When the first electric lights went on in New York City in 1882, the power came from Thomas Edison's famous Pearl Street Station, which was equipped with B&W boilers. Nearly 80 years later when New York City gets its first power from the atom, again it will be with the help of B&W equipment, this time a nuclear reactor and steam generating system.

To aid the electric utilities in their search for greater efficiency, B&W has invested millions of dollars over the years in research on steam generation and combustion of fuels. New types of steam generators, such as the Universal Pressure Boiler, open the way to the use of exceedingly high pressures. Cyclone Furnaces utilize low grades of coal and reduce operating costs. Viewing of the furnace with closed circuit television permits safer and more efficient use of fuel. Alloy steel tubing for high temperatures, cost-saving welded tubes, refractory concretes to speed furnace repairs, complete control systems for boilers and power plants, soot blowing equipment to maintain continuous high operating efficiency, combustion of fuel under pressure – these are but a few of the many areas in which B&W has made technological contributions to the advancement of the American utility industry.

The search for higher levels of economy and output may bring about even more advanced methods for producing electricity. Such unusual terms as "magnetohydrodynamics" and "thermionics" may well become as commonplace in power generation as "turbo-electric" is today. Therefore, while many billions of dollars will be spent annually over the next several decades for conventional steam generators, turbines and allied equipment, B&W will continue to serve the utilities' expanding needs by constantly investigating new technological developments.

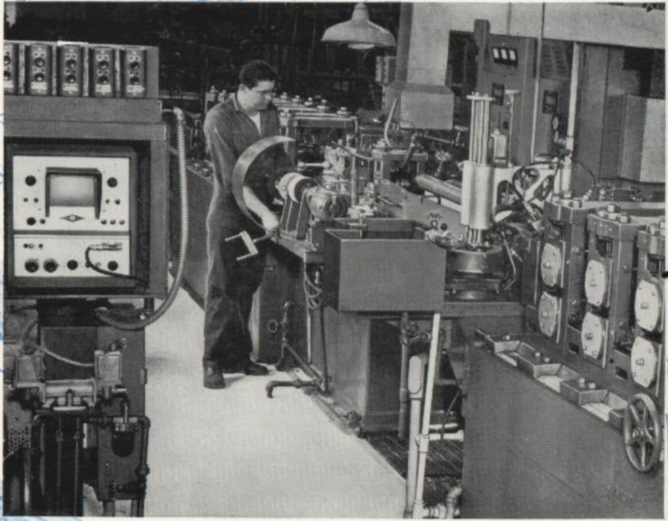


◁

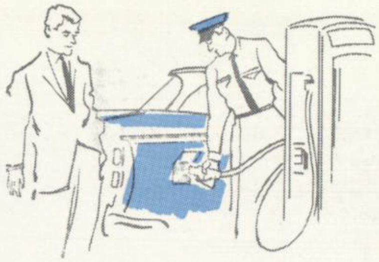
Efficient operation of a refinery boiler is assured by these Bailey meters and controls.

◁

B&W tubes and refractories are vital parts of the many heating furnaces used in the petroleum industry.



△ *Manufacturing "Lectrosonic" welded tubing. Ultrasonic testing equipment in left foreground is a vital part of the complete quality control procedure.*



The Petroleum Industry

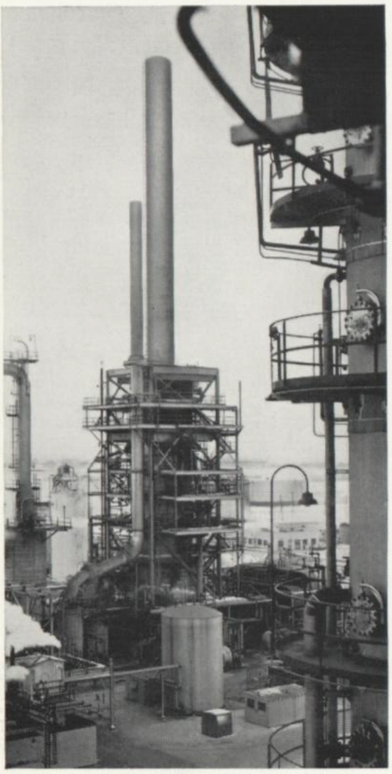
The petroleum industry observed its 100th birthday in 1959, closing a century of tremendous growth. Today the world's requirement for energy in all its forms is more than 25 times what it was a century ago, and in the United States the petroleum industry supplies nearly 72 per cent of the total. Besides its use as fuel, petroleum is used as a base for the hundreds of new products which the new science of petrochemicals has produced.

B&W has been a close partner of the petroleum industry for many years. An early and significant contribution was the development of economical oil burners for boilers, which promoted the use of oil as fuel for ships and stationary power plants. This association has continued, and B&W is currently participating in the development of burners and combustion control methods that will help to reduce smog.

To meet the increasing demand for its products, the petroleum industry requires a vast array of specialized engineering equipment with considerable research and development work behind it.

Compact and highly reliable B&W Marine Boilers equip a considerable portion of the oil tanker fleets. In refineries and natural gasoline plants, B&W tubular products – tubing, pipe and welding fittings – of all grades of steel play vital roles in heaters, exchangers, piping and processing equipment. The more recent B&W application of a method for making welded carbon steel tubing of extreme reliability will permit use of this product in heat exchangers with considerable savings in cost. Performance of refinery heating furnaces has been improved by the application of lightweight B&W insulating firebrick. Diamond soot blowing equipment enables fuel oil heaters to operate continuously at top heat-absorbing efficiency, and Bailey Meter Company instruments and control systems are widely used to improve both product yield and continuity of production.

To enable refineries to salvage the heat and power from the byproducts of their operations has required special designs of burners and furnaces. A recent example is the B&W "CO" boiler which burns the previously wasted carbon monoxide gases from catalytic cracking units.



△ *Heat otherwise wasted in the exhaust gases from catalytic cracking units is recovered and generates steam in the B&W Carbon Monoxide Boiler.*

The Pulp and Paper Industry

Paper has been so taken for granted that we overlook its importance. But in the last year alone, each person in the United States used an average of over 400 pounds of paper and paper board products. The industry also supplies processed wood pulp for a surprising variety of products besides paper, including tires, explosives and photographic film.

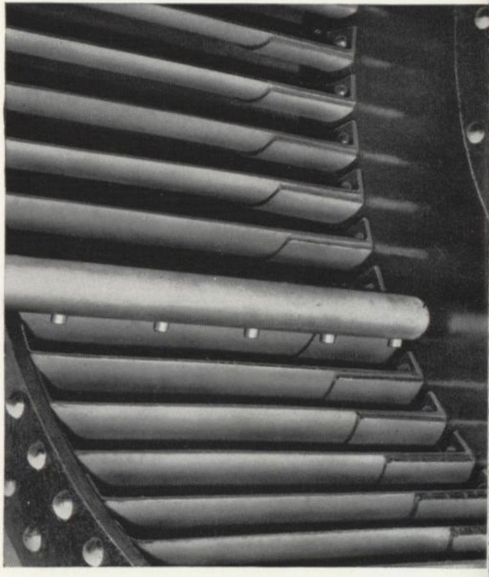
Steam and electricity are almost as fundamental as wood and water in the making of pulp and paper. Steam is used with chemicals in pressure cookers to reduce wood chips to pulp, and later, when the pulp is converted into paper, steam is used to dry the product. To run its complex machinery the industry consumes some 25 billion kilowatt hours of electricity a year, more than twice the amount used for all purposes in a large city such as New York.

An important factor in the economy of operation of the industry is the ability to produce steam from reclaimed waste products. B&W pioneered the development of modern chemical recovery units which produce a good share of the steam required, while at the same time recovering many thousands of dollars worth of valuable chemicals for reuse in the pulping process. Because of the unusual nature of the chemical residual liquors to be burned, special furnaces, refractories, direct-heated evaporators, and other B&W apparatus were devised.

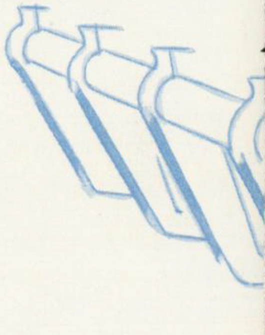
Lower operating costs have also resulted from developments by Diamond Power of more efficient deslagging equipment such as the shot-cleaning system. The Tubular Products Division supplies considerable quantities of tubing for multiple-effect evaporators and other heat exchangers.

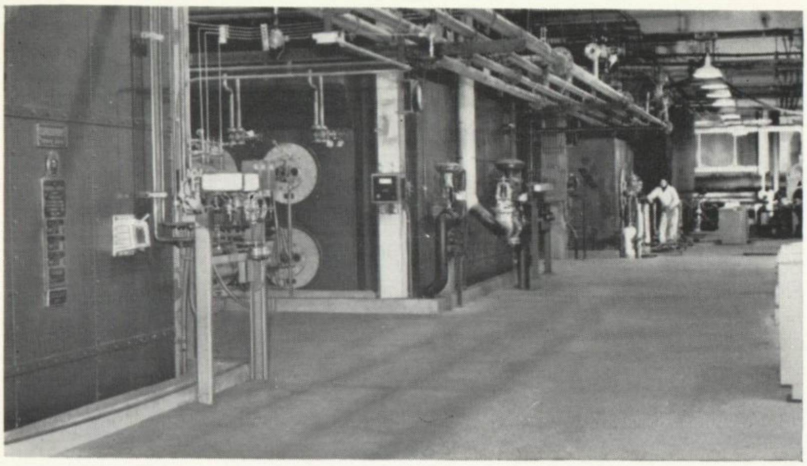
Another source of fuel to generate steam in the pulp and paper industry is the bark removed from logs. Because bark has a high moisture content and is often contaminated with sand and salt, burning it is a very difficult process. However, with the development of efficient and versatile burning equipment, including the B&W Cyclone Furnace, bark is today an economical and widely used fuel for pulp and paper mill boilers.

Bailey instrumentation and control systems are used in the pulp and paper industry, not only for the control of boiler operation, but also for controlling the various stages of the paper making process.

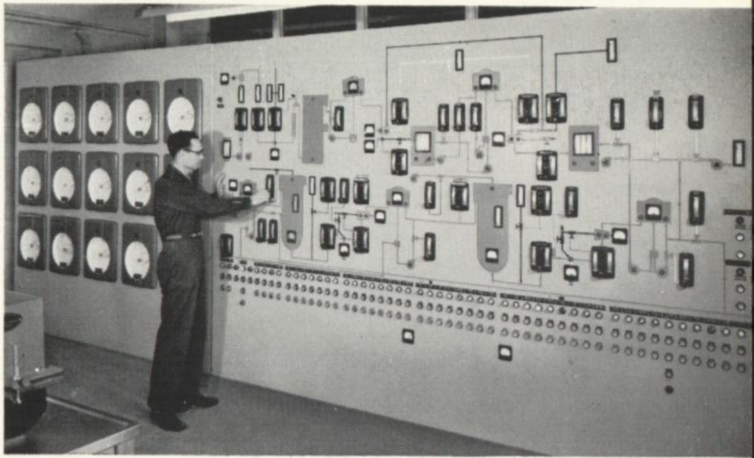


△ *Keeping fan blades clean was a problem solved by Diamond. The nozzles projecting from the tube above emit high pressure jets of steam or air to remove deposits without interrupting operation of the fan.*

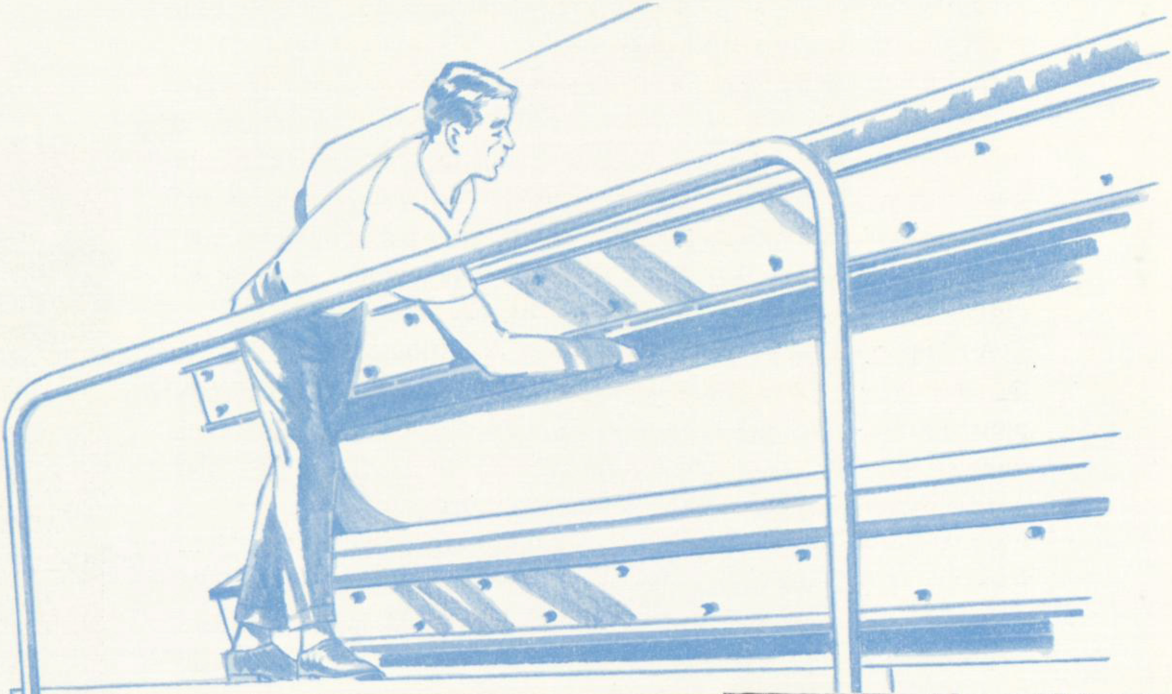


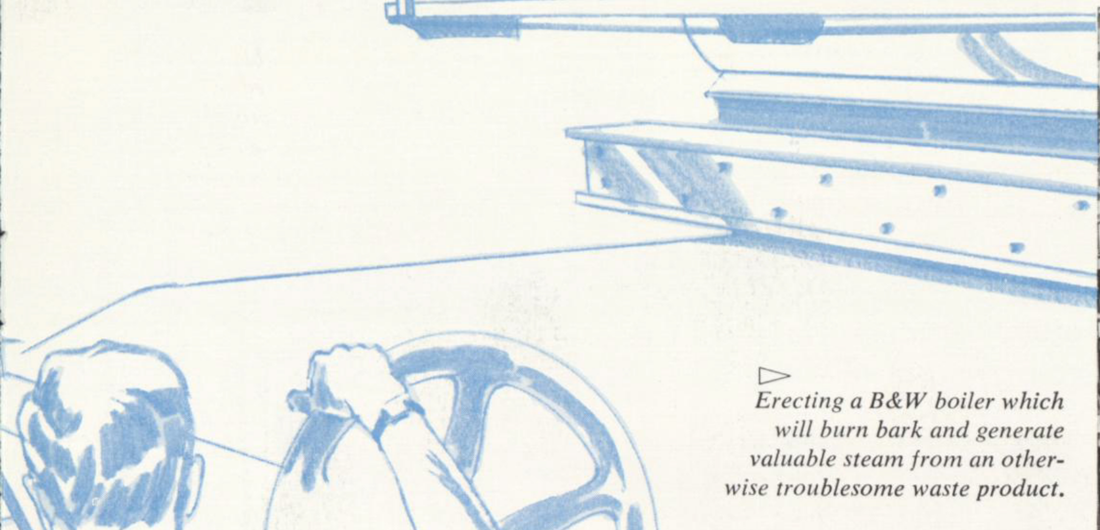


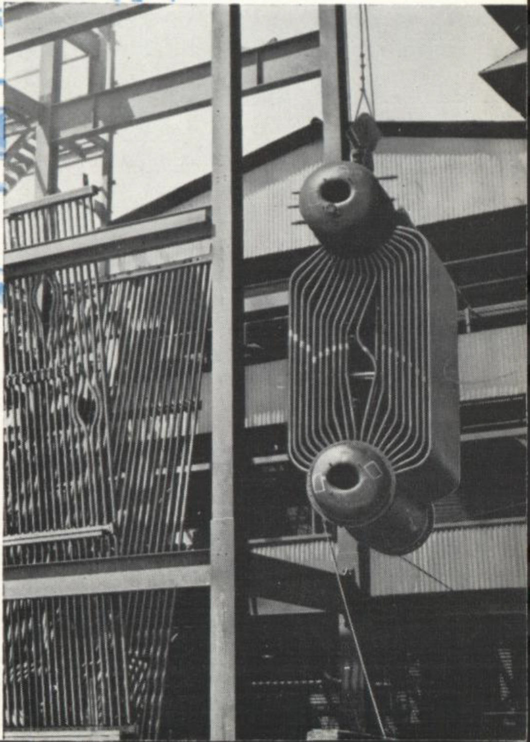
△ *Chemical recovery units were pioneered by B&W and are important factors in the economy of operation of the industry.*



△ *Automatic operation under optimum conditions is especially important in the pulp and paper industry. Here Bailey equipment controls a five-stage bleach plant.*







▷ *Erecting a B&W boiler which will burn bark and generate valuable steam from an otherwise troublesome waste product.*

The Primary Metals Industry

Towering above our cities are many modern office buildings completely unlike their neighbors in that they are enclosed by metallic walls. This is typical of the method in which industrial designers are putting metals to work throughout industry in an ever widening range of applications.

B&W engineers have worked closely over the years with the primary metals industry to develop the many specialized types of boilers, controls, tubing, refractories and other products needed.

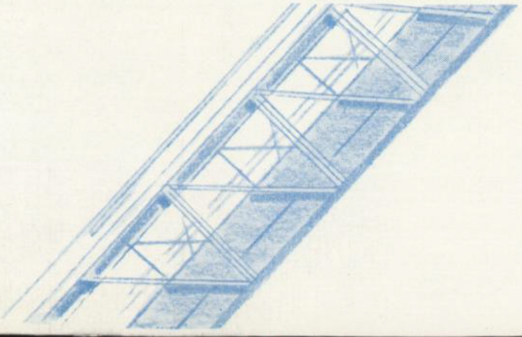
Aluminum production, for example, which requires large amounts of electricity, was once tied almost exclusively to hydro-electric power. Now steam-electric power is also used because B&W boilers have helped it to become competitive with hydro power.

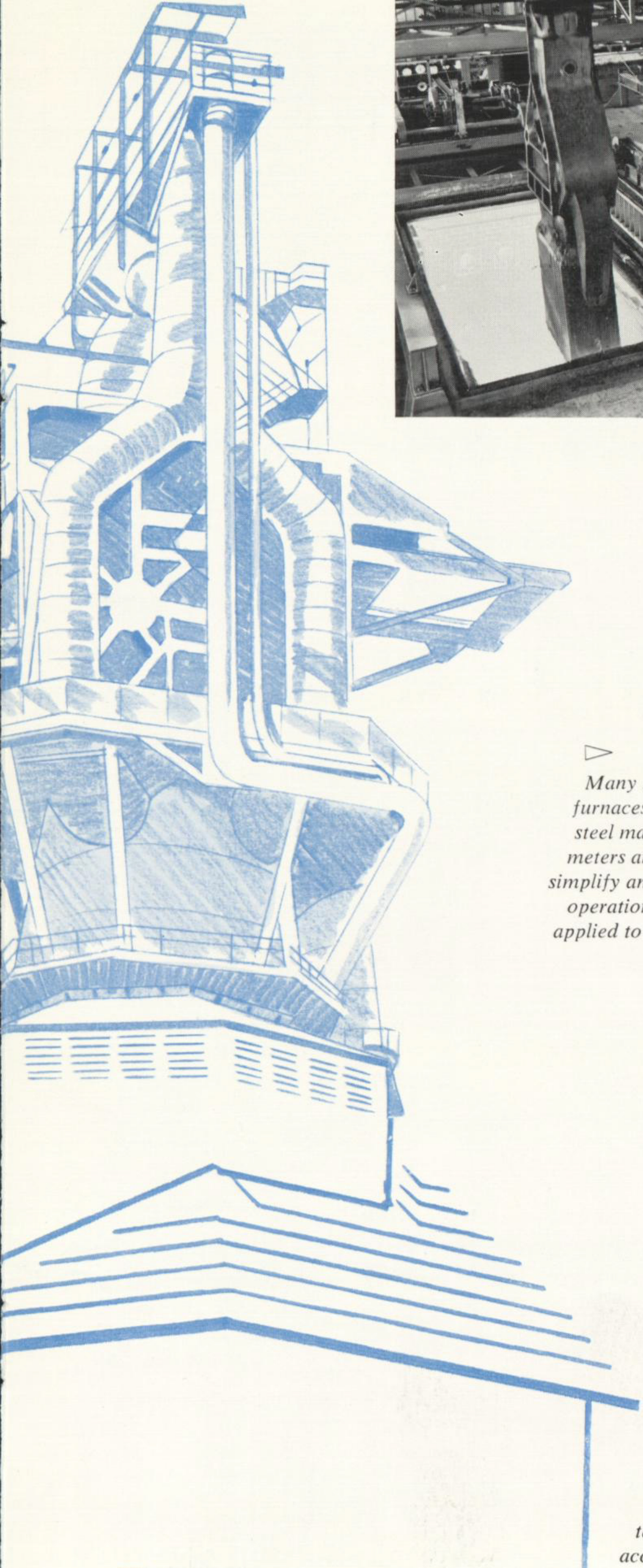
Specially designed burners have reduced the costs of steel making by utilizing by-products such as coke-oven and blast furnace gas to generate steam. B&W waste heat units are used in all basic metals industries to extract the heat from gases leaving the many different kinds of furnaces. This includes zinc fuming furnaces, ore roasters, reverberatory furnaces, refining furnaces and many others.

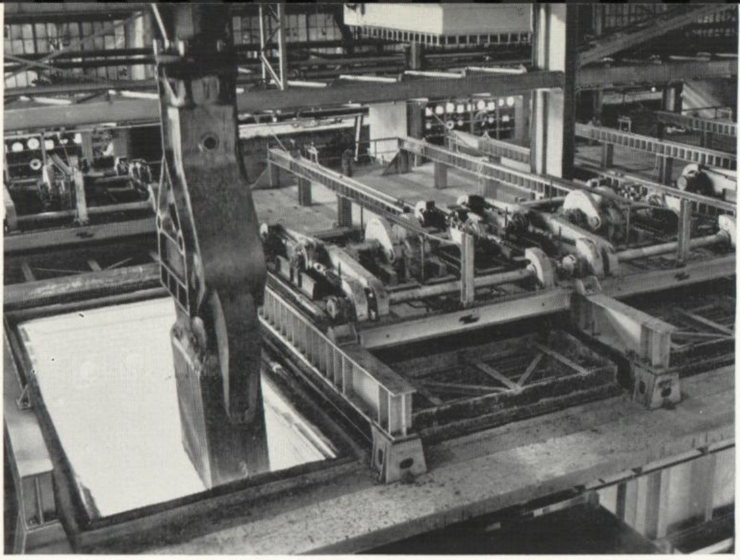
B&W refractories are used throughout the basic metals industries — in soaking pits, coke ovens, slab and billet heating furnaces, electric furnaces, strip annealing furnaces, cupolas, and holding ladles. B&W tubing finds its way into the materials-handling equipment — hydraulic mechanisms, bearings on steel mill machinery and the systems conveying liquids and gases for the manufacturing process.

Bailey Meter Company is an important supplier of meters and controls to this industry; for plant utility systems, special atmosphere generators and annealing furnaces, for fuel and temperature control of slab heating furnaces, for air and gas distribution, and many other applications.

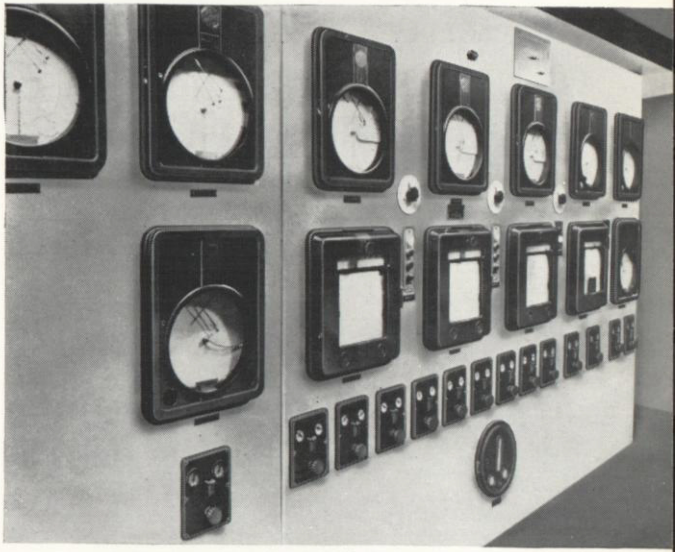
Greater personnel safety and more efficient use of manpower is made possible by use of Diamond Power's closed circuit TV cameras which view many difficult operations from a distance.





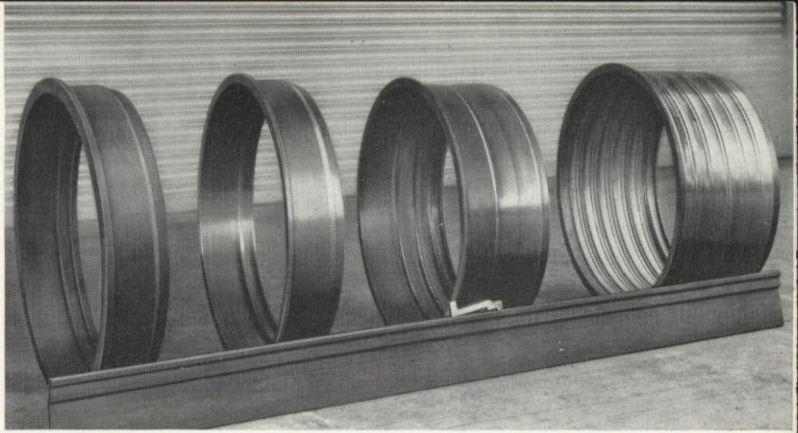


◁
B&W refractories line the covers for these soaking pits and have made possible important savings in heating and maintenance costs.



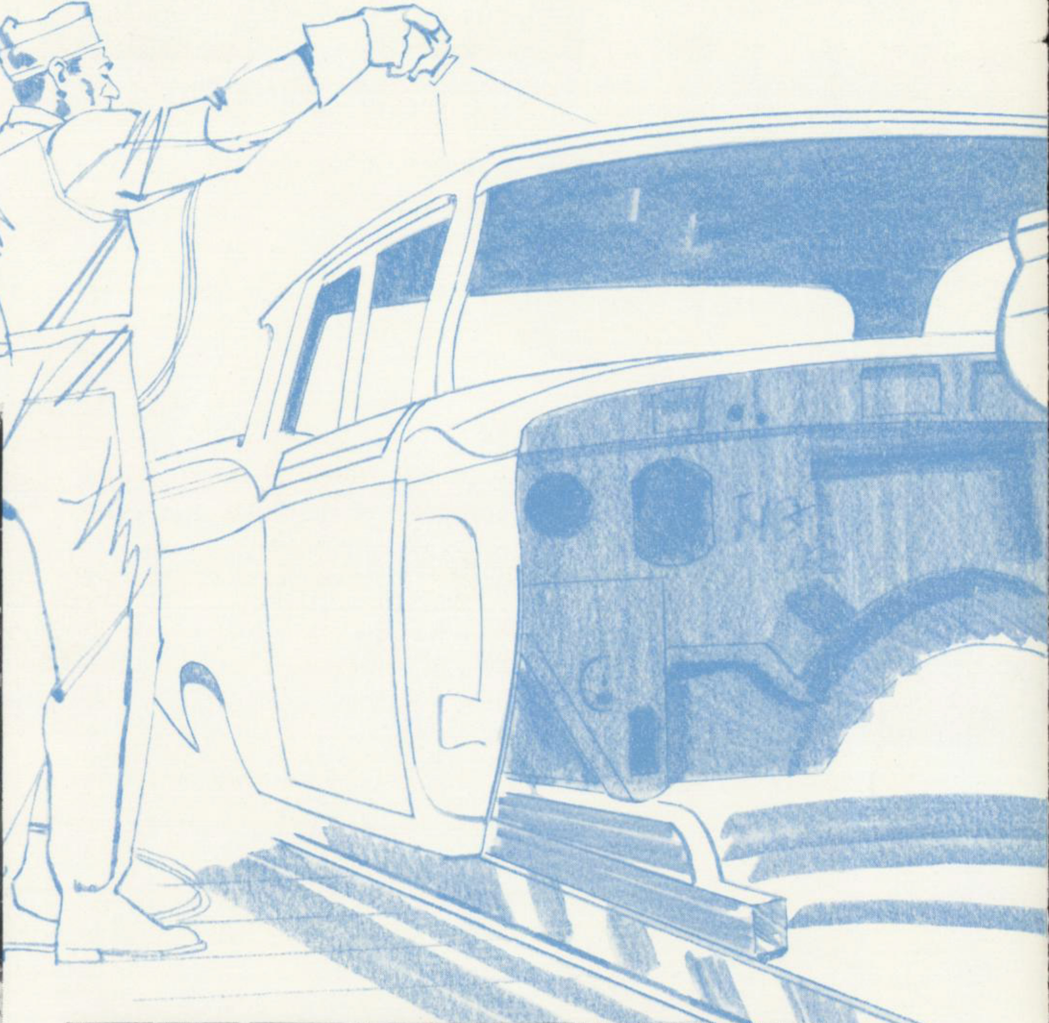
▷
Many kinds of heating furnaces are essential in steel making and Bailey meters and controls help simplify and improve their operation. Here they are applied to a "slab heater."

▷
Diamond closed circuit television makes possible accurate remote control of the loading of tubes into an annealing furnace.

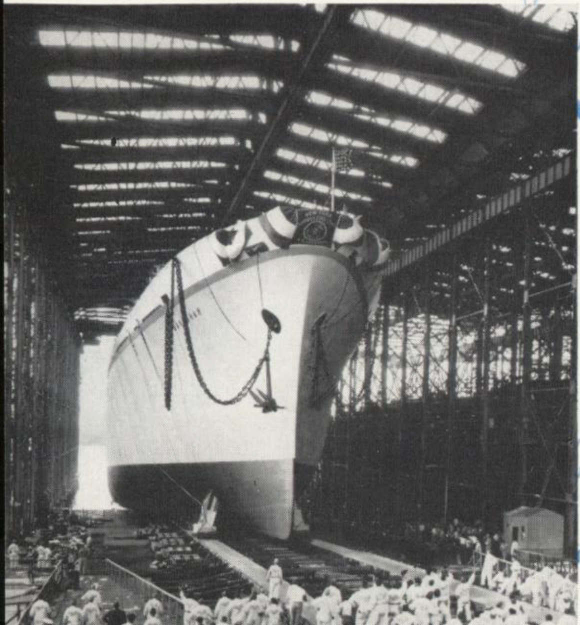


▷

Some of the problems created by the tremendous heat developed in aircraft jet engines are solved by stainless steel rings made from B&W extrusions.

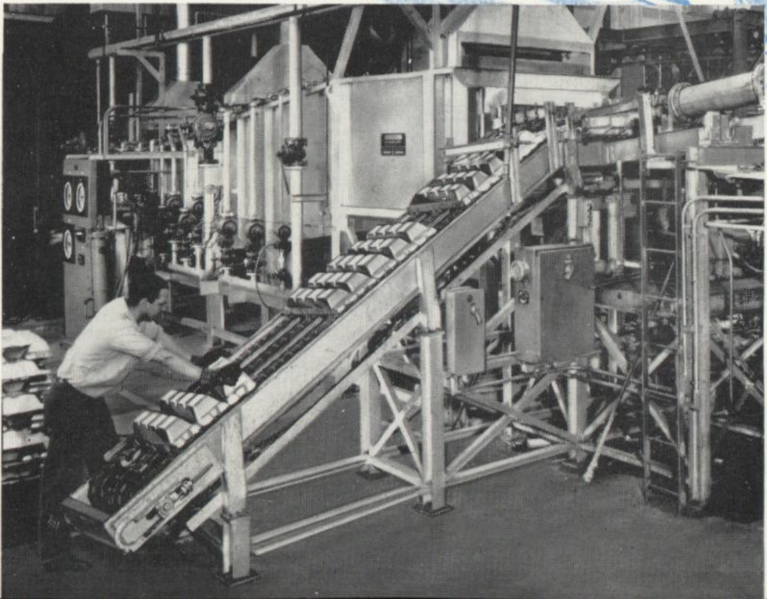


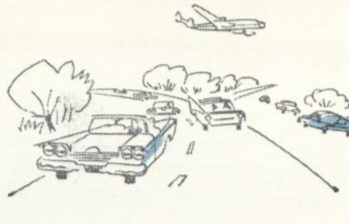
▽ *The* Savannah, *the world's first nuclear-powered merchant ship is launched. Designed and built by B&W, her atomic power plant represents the latest in a long series of pioneering achievements in the marine industry.*



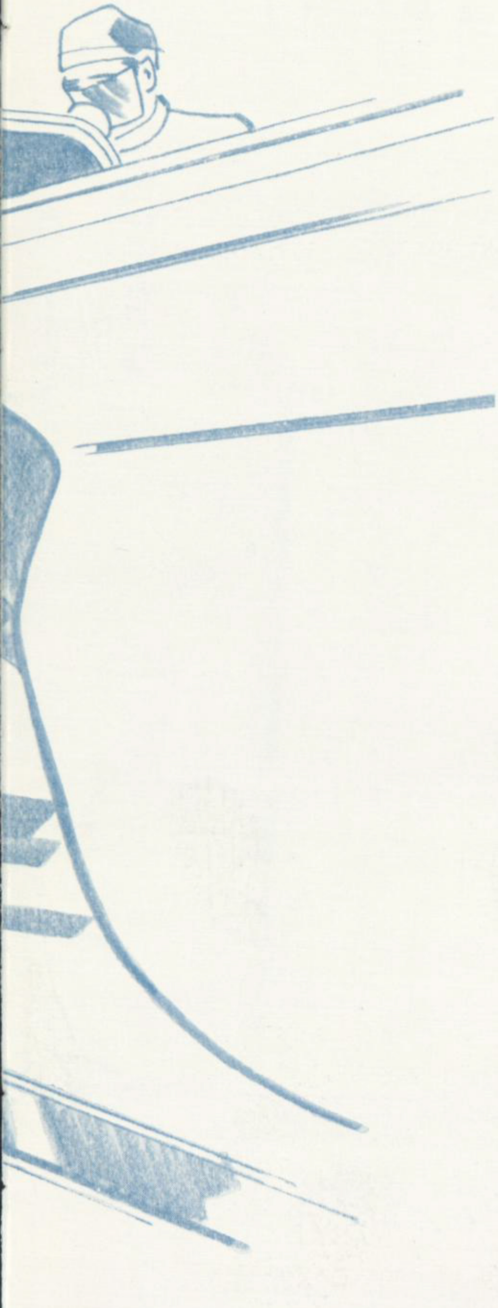
▷

B&W refractories save operating costs in many different types of furnaces in the aircraft and automotive industries. This furnace melts aluminum for automobile pistons.





The Transportation Industry



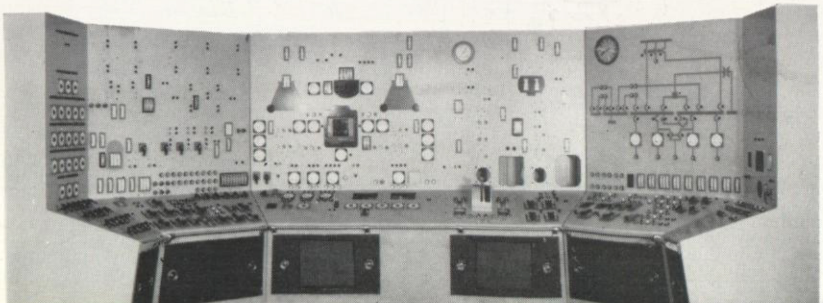
The effectiveness of our economic and social progress depends on the effectiveness of our transportation. When transportation is mentioned – automobiles, railroads, ships, planes, or even pipe lines and conveyor systems, the chances are good that some B&W products are involved.

In the automotive industry, thousands of tons of B&W tubing are used as the races for anti-friction bearings, and as gears and other components of automatic transmission systems. In the aircraft industry, B&W solid extrusions are used in the manufacture of jet engine rings. The Tubular Products Division has also helped to develop an internally smooth, low cost, welded carbon steel tube which is widely used in applications for light weight hydraulic cylinders. Pipe lines and conveyor systems also utilize large amounts of B&W tubing.

Manufacturers of transportation equipment are among the major customers of the B&W Refractories Division. B&W insulating firebrick line stress-relieving furnaces that are large enough to accommodate an entire railroad tank car. These bricks also are extensively used in the many different types of heat treating and melting furnaces needed throughout the manufacturing process. In a recent development, blankets of B&W's wool-like ceramic fiber, Kaowool, are also being used to insulate jet plane engines.

One of the most outstanding examples of B&W engineering service is in the marine field. The naval and merchant fleets require boilers of highly specialized design combining lightest possible weight and compactness with high efficiency and extreme reliability. In helping to solve this problem, B&W and its subsidiaries have developed boilers, controls and soot blowers which are known throughout the world for their dependability, as exemplified in such great ships as the *S.S. United States*. The first nuclear powered merchant ship in the world, the *N.S Savannah,* will have her complete atomic steam generating system designed and built by The Babcock & Wilcox Company.

Bailey Meter instruments and controls, which have been used for many years on naval and merchant vessels, now are also being used on nuclear submarines.

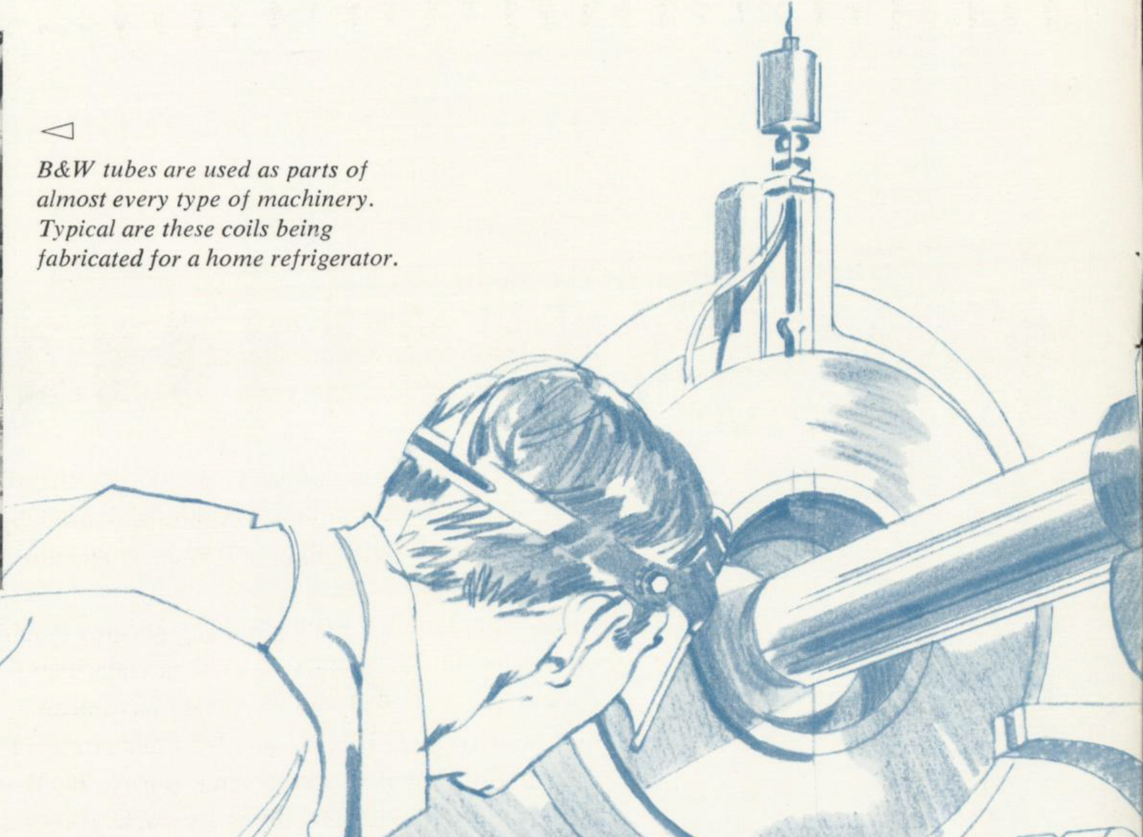


◁

These Bailey instruments and controls are the "brain center" of the N.S. Savannah's *power plant.*

◁

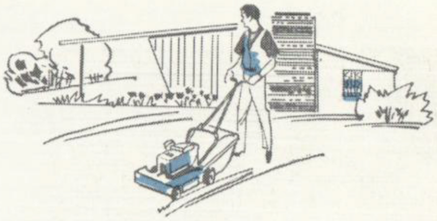
B&W tubes are used as parts of almost every type of machinery. Typical are these coils being fabricated for a home refrigerator.



▽ *B&W refractories line many of the furnaces used in machinery manufacture, such as this high speed heating furnace.*

▷

Diamond closed circuit television makes it possible for the operator of this machine tool to remain at the controls and yet see essential gauges and dial settings.



The Machinery Industry

The machine pervades our daily lives – from giant presses in industrial plants to the countless appliances used by the housewife as she goes about her daily tasks. B&W products also pervade the machinery industry.

Countless tons of B&W tubing go into machinery as parts of structures and bearings. B&W's alloy castings also find their way into many machines. The machine itself may have been assembled of parts stress relieved or heat treated in controlled atmosphere furnaces requiring refractory linings of an extreme purity. B&W's Refractories Division is a major supplier of linings for such purposes.

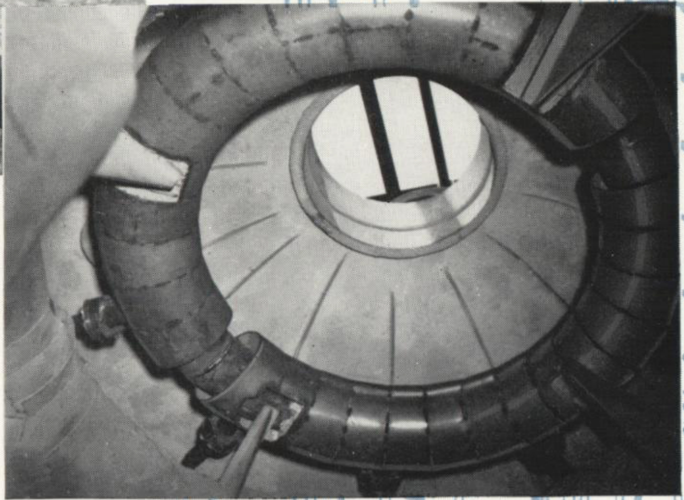
Some machines are so large today that it is difficult or impossible for the operator to see the essential parts of the operation. Diamond TV equipment permits him to view these operations from a central point and achieve precise control.

In your own home, the firebox in your oil-burning boiler may very well be lined with B&W insulating firebrick, and the various components of your washing machine and refrigerator may be made of B&W tubing.

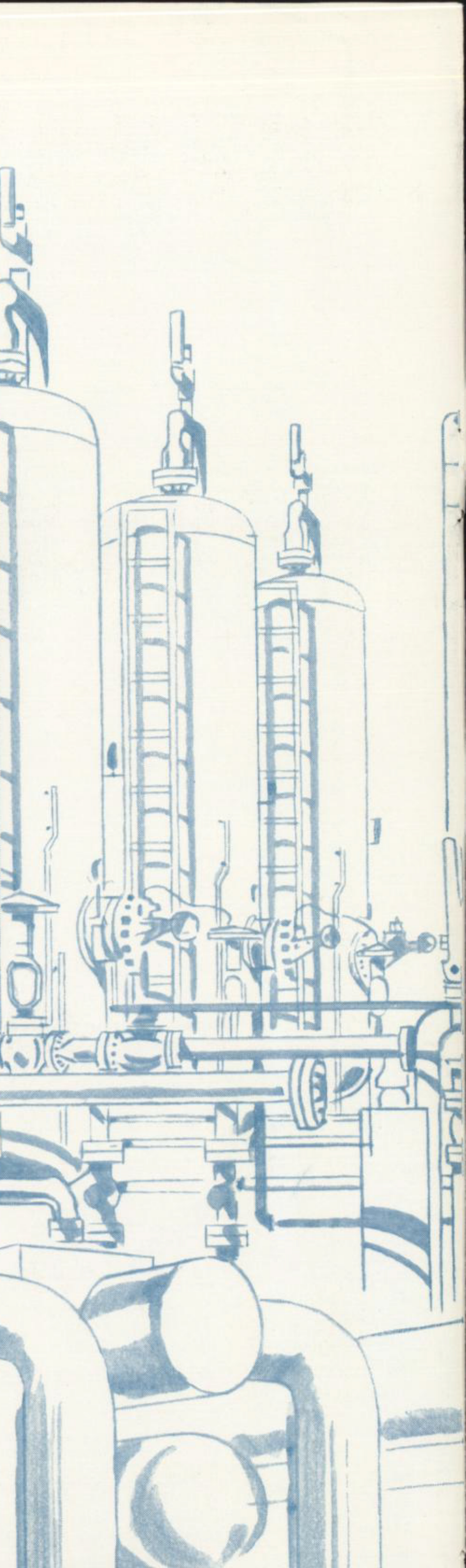
Thousands of dollars are saved in the handling systems for the liquid oxygen fuel for missiles through use of special B&W stainless steel tubing, polished inside and out, and supplied in the required extra long lengths. All types of pressure bottles from portable medicinal oxygen tanks to multi-cylinder gas transportation trailers are also fabricated of B&W tubing.

Reliable boilers are essential to continuity of operations in many manufacturing processes. For that reason, B&W has brought to the design and construction of process-steam and heating boilers for the machinery industry the same techniques and quality used in manufacturing the largest and most powerful utility type boilers.

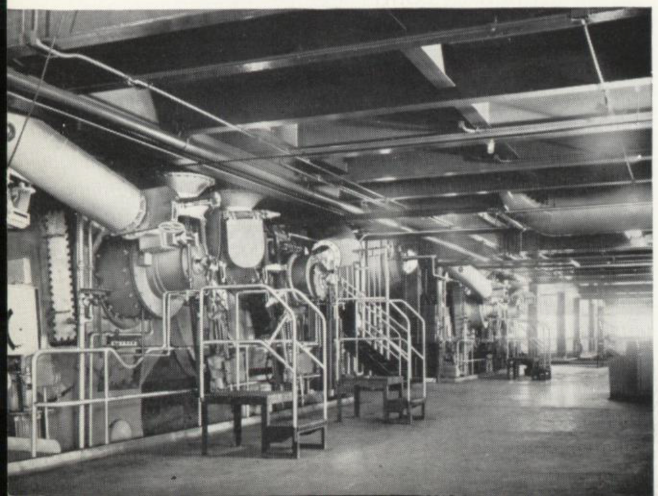
△ *Transportation of chemicals is frequently through pipe lines and involves the use of both B&W tubes and welding fittings.*



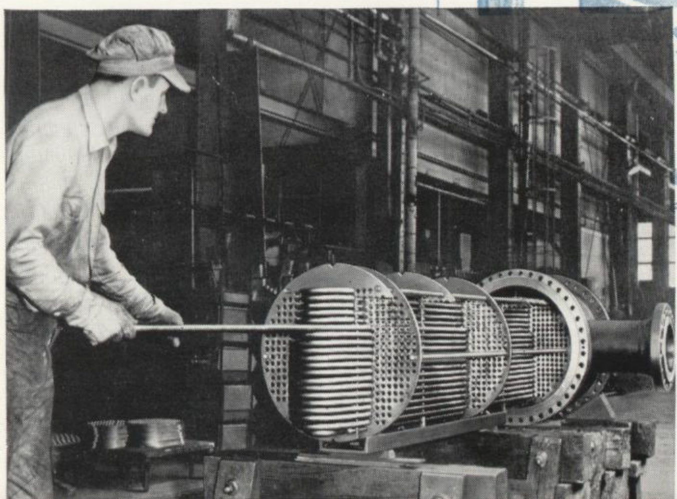
▷ *B&W refractories are used in chemical heating equipment such as this vessel for making synthetic rubber.*

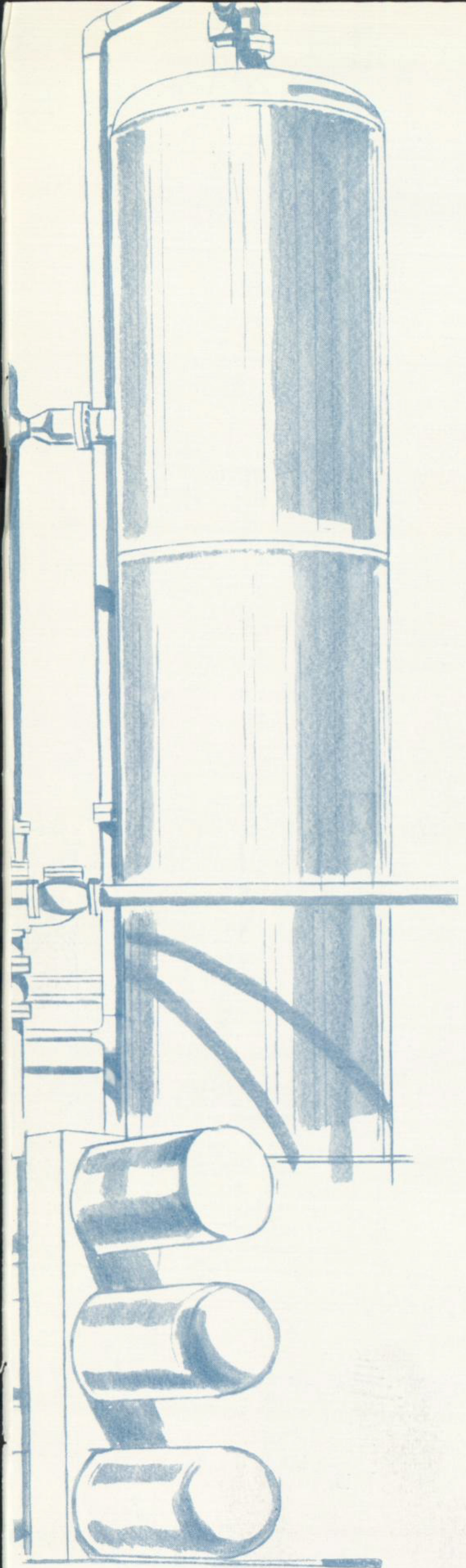


▽ *The chemical industry uses enormous quantities of steam in its processes, generated in units such as these two Cyclone-Furnace-fired B&W Boilers.*



▽ *B&W tubes find wide application in the many types of heat exchangers so vital to this industry.*





The Chemical Industry

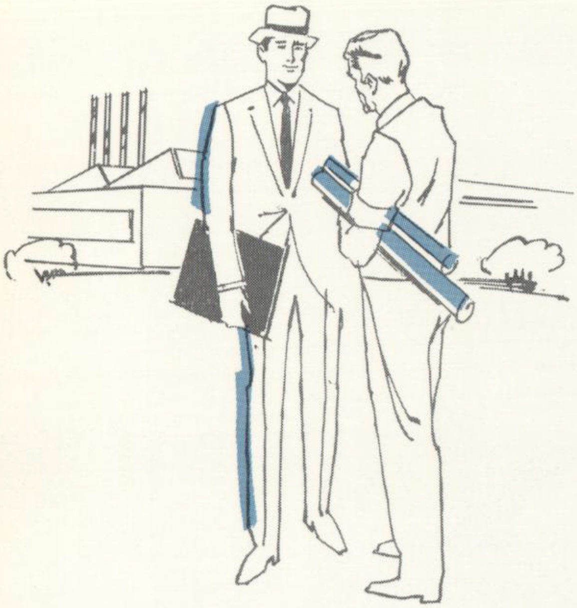
The chemical industry means many things to many people: nylon hosiery and wash-and-wear suits to the fashion world, insecticides and fertilizers to the farmer, and an endless variety of materials to the manufacturer and industry in general. In producing such a diversity of materials, the chemical industry requires special equipment for handling extremes of pressure and temperature, corrosive liquids, and gases of many different types. These all present a variety of problems which are frequently brought to B&W engineers for solution.

The commercial manufacture of synthetic rubber and polyethylene, a product widely used as a wrapping and as a container, presented problems involving tubing with unusual combinations of properties – problems solved by the Tubular Products Division. For instance, in the manufacture of polyethylene, tubing to withstand unusually high pressures was required. The Division not only produced the tubing in the desired combination of material, diameter and wall thickness, but also in lengths which permitted great reduction in the number of fittings and joints – thus lowering the cost of processing equipment.

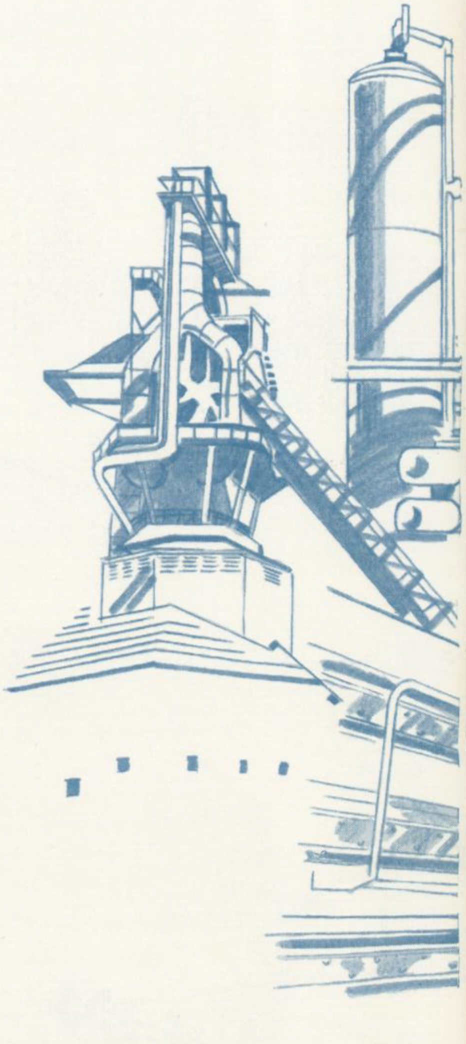
In an industry known for its automation, meters and controls have been supplied by the Bailey Meter Company whose specialists in instrumentation for the chemical industry are constantly working on improvements in design and application.

The Boiler Division, in addition to supplying standard boilers, designs and builds many special process boilers for the industry including the sulphur dioxide boiler. Separately fired superheaters, high temperature air heaters, heat exchangers of many types, large pressure vessels, and hollow forgings are also supplied by the Boiler Division.

Large quantities of B&W refractories are used in applications where their exceptional strength and insulating properties contribute to long service life and high fuel economy. These include sulphur and sodium silicate furnaces, retorts, carbon black furnaces, chemical reactors and reformers.



Partner to Every Industry

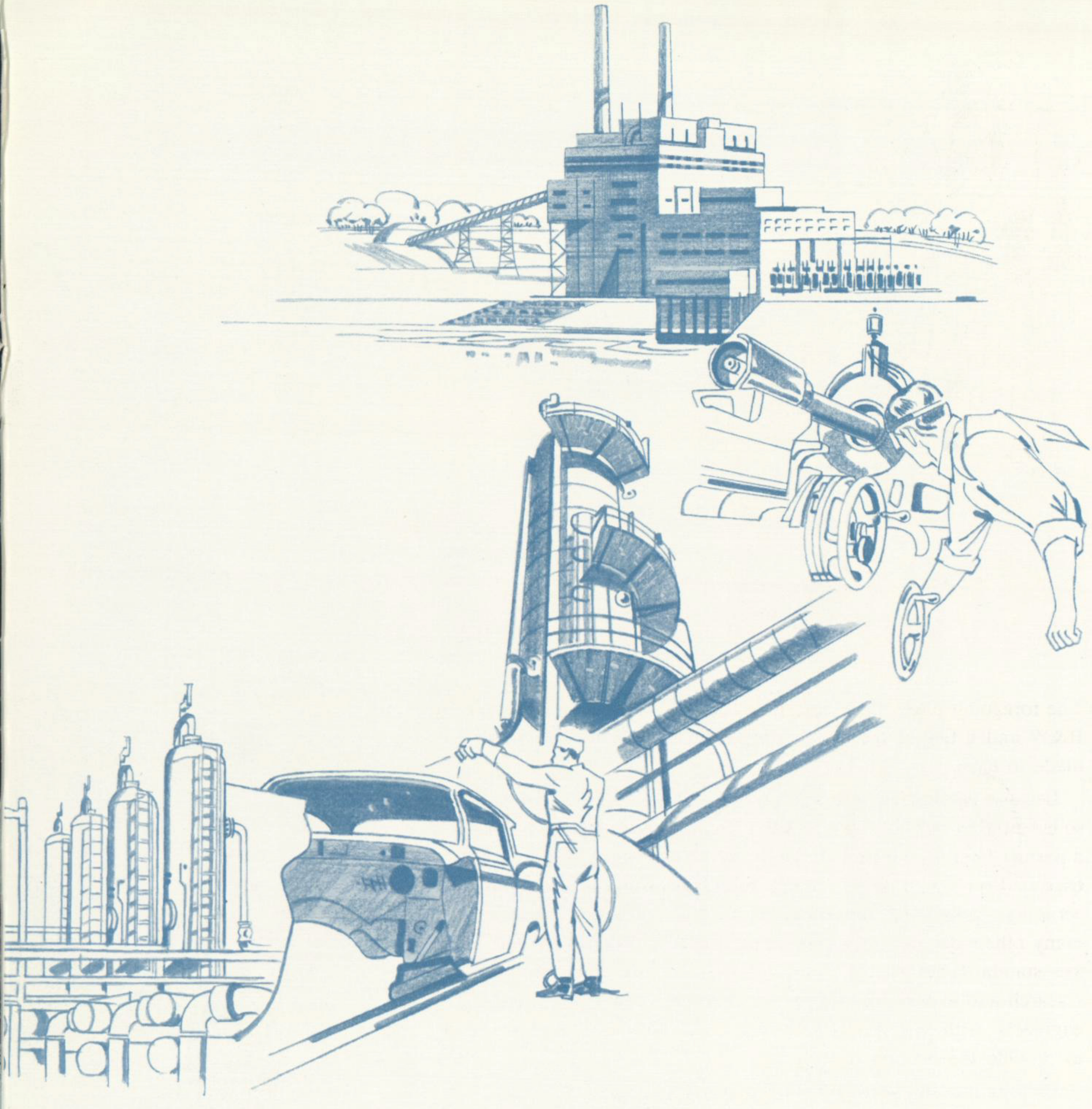


The foregoing pages have described some of the industries served by B&W and a few of the outstanding contributions the Company has made to each.

Because machinery, heat and power, and their efficient control, are so essential in our economy, B&W's great range of products makes it a partner to every industry. In addition to those already named, industries as diverse as cement making, food processing, textiles, glass and ceramics, laundries, breweries, building construction, dairies, and many others depend upon one or more B&W products. Often, these are standard designs or components, perfected through years of research and experience. But when something new is required, B&W engineers, with their knowledge and progressive thinking, are ready to provide the necessary equipment.

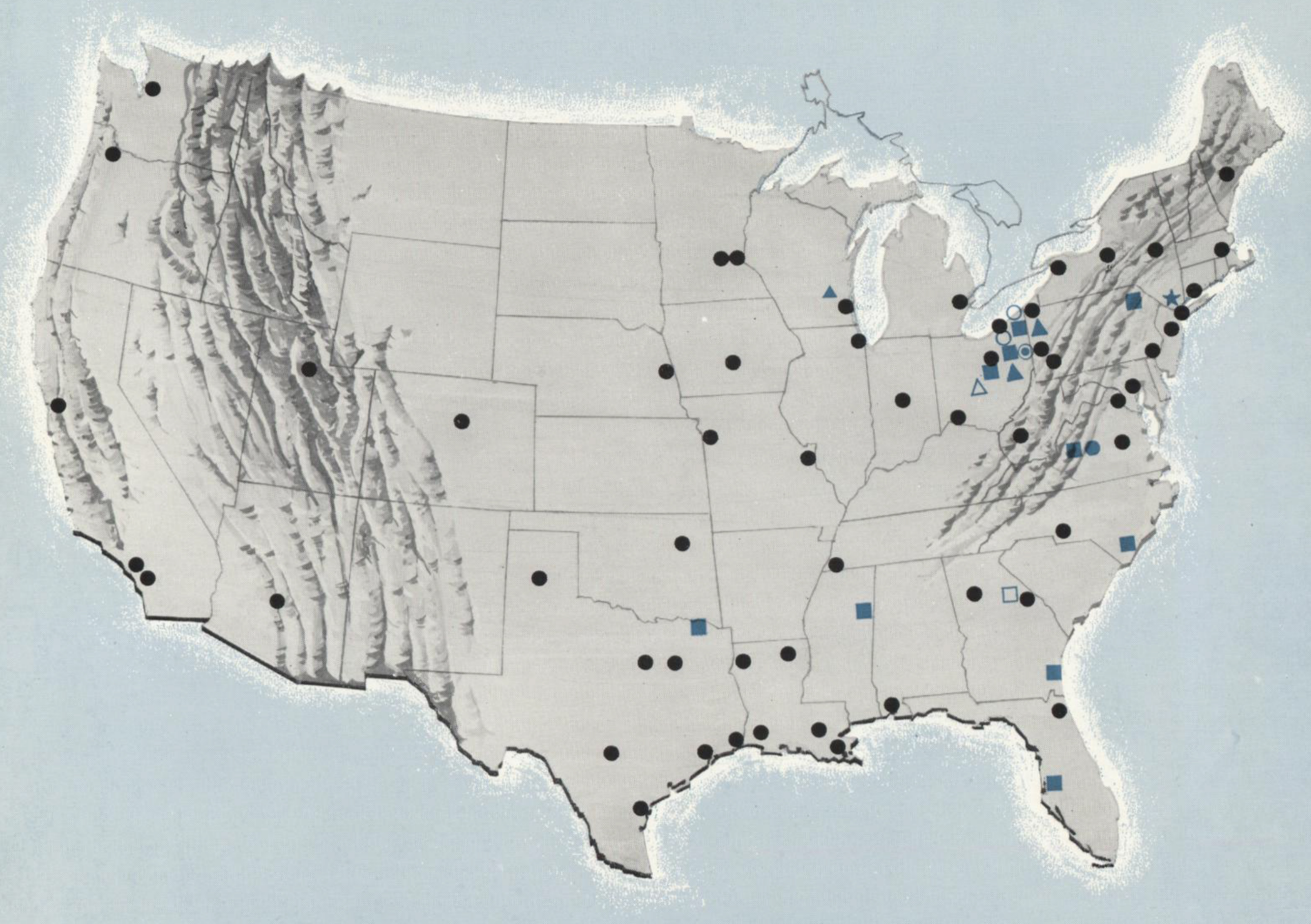
Helping industry serve America is a test of our abilities.

At B&W it is believed that such service is the road to continued growth and success.



The Babcock &

★ **GENERAL OFFICES, NEW YORK, N. Y.**



Wilcox Company

● **SALES OFFICES IN PRINCIPAL CITIES**

Facilities

■ *Boiler Division*
Alliance, Ohio
Barberton, Ohio
Brunswick, Georgia
Lynchburg, Virginia
Paris, Texas
West Point, Mississippi
Wilmington, North Carolina

Engineering Branch Offices
Cleveland, Ohio
St. Petersburg, Florida
Scranton, Pennsylvania

● *Atomic Energy Division*
Lynchburg, Virginia

▲ *Tubular Products Division*
Alliance, Ohio
Beaver Falls, Pennsylvania
Milwaukee, Wisconsin

□ *Refractories Division*
Augusta, Georgia

◉ *Research and Development Division*
Alliance, Ohio

○ *Bailey Meter Company*
Cleveland, Ohio
Wickliffe, Ohio

△ *Diamond Power Specialty Corporation*
Lancaster, Ohio

Products

STEAM GENERATING EQUIPMENT

- For Power, Industrial Process and Heating, and for Marine Service
  - Water Tube Boilers
  - Water Cooled Furnaces
  - Superheaters and Reheaters
  - Economizers and Airheaters
  - Pulverized Coal Equipment
  - Cyclone Furnaces, Stokers
  - Oil, Gas and Multi-Fuel Burners
- Metering and Control Apparatus
- Power Plant Information Systems and Performance Monitors
- Soot Blowing Systems and Water Gauges

TUBULAR PRODUCTS

- Carbon, Alloy and Stainless Steel for Pressure and Mechanical Applications
  - Seamless Tubes and Shapes
    - Hot Finished, Turned, Cold-Drawn or Roto-Rocked
  - Welded Tubes and Shapes
    - from Hot-Rolled or Cold-Rolled Strip
  - Extrusions – Tubular and Solid Shapes
  - Seamless Welding Fittings

ATOMIC ENERGY

- Complete Nuclear Power Systems and Components
  - Reactors, Cores and Vessels
  - Fuel Elements
  - Heat Exchangers
  - Controls and Instrumentation
- Test Reactors
- Critical Experiments
- Research and Economic Studies

REFRACTORIES

- For Furnaces and Heat Treating Processes
  - Insulating Firebrick
  - Special Firebrick
  - Silicon Carbide
  - Plastics, Mortars, Castables
    - Ramming Mixes, Calcines

SPECIAL EQUIPMENT

- Hollow Forgings
- Alloy Castings
- Pressure Vessels
- Heat Exchangers
- Automatic Process Control Systems
- Recovery Process for the Pulp Industry
- Pulverizers for Cement Materials
  - Rock Products and Ores
- Industrial (Closed Circuit) Television

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The Babcock & Wilcox Company